Vol. IX MAY, 1919 No. 5

JAN 26 1921

AMERICAN JOURNAL OF PUBLIC HEALTH

THE JOURNAL OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

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OF THE

Postponement of Annual Meeting to October, 27-30

See Editorial Mention of It on Page 373

See List of New Members on Page 375

And the Campaign News Notes

In This Issue Is a Bird's-Eye View of State Health Legislation, See Page 388

PUBLISHED MONTHLY AT
10 DEPOT STREET, CONCORD, N. H.

ADDRESS CORRESPONDENCE TO
EDITORIAL OFFICE, 169 MASSACHUSETTS AVE.
BOSTON, MASS.

Subscription Price, $4.00 per Year. Single Copies, 50 cents.
A. P. H. A. Membership, Including Subscription, $5.00 per Year.

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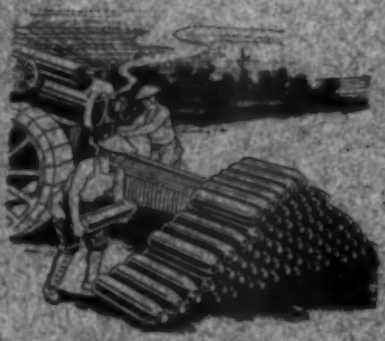

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Vol. IX MAY, 1919 No. 5

LEGITIMATE USE OF NARCOTICS IN WAR TIME.

ERNEST S. BISHOP, M. D., F. A. C. P.,
Clinical Professor of Medicine, New York Polyclinical Medical School, New York City, etc.

Read before Food and Drugs Section, American Public Health Association, at Chicago, Ill., December 11, 1918.

Dr. Bishop here takes up the discussion of one of the greatest problems of the day. This is one of two sterling papers presented at Chicago, for the publication of which the Journal has had a good many requests. It is the intention to follow this by Dr. Bishop's second address to make the story the more complete.

BY "narcotics" in this paper I am referring to the group of drugs typified by, and for purposes of present discussion practically confined to, the opiates, the preparations and derivatives of opium. It is necessary to do this because as it has come to be used the term "narcotics" is synonymous in the minds of many if not most people with a number of drugs of widely dissimilar action and properties, loosely grouped under the title of "Habit Forming Drugs." Although many of these drugs have narcotic properties, their action upon the human body is in many respects totally unlike the action of the opiates themselves. Also the condition resulting from their prolonged and continuous administration is an entirely different condition clinically and physiologically from that manifested in the chronic opiate user. The problems associated with the use of alcohol, cocaine, chloral, cannabis, the various coal tars, etc., differ from each other and all of them are, in their basic medical principles, of an entirely different character from the problems associated with the use of opiates. The erroneous grouping in the minds of legislators, administrators, executives and even the medical profession itself, fostered as it has been by widespread advertising, educational and other publicity of supposedly specific treatments and cures, is, in my opinion, responsible for much of the failure to ameliorate or control existing conditions.

The overwhelming narcotic problem of war time and especially of active warfare is that of the opiates. Opiates form and must continue to form the most indispensable medication, emergency and otherwise for shock, wounds and allied conditions. It may be safely stated that of all emergency medication the opiates would be the last to be surrendered by the in-

telligent physician or surgeon. This is true in every day lay practice and its importance is increased a thousand fold under conditions of active warfare. The opiates possess combined actions and powers not found in any group of drugs. In therapeutic doses they support the heart and circulation, they relieve pain, they hold in check excessive activity of the glands of internal secretion, with all their associated phenomena exhaustion and collapse; they control spasm and they give sleep. In no other drugs or groups of drugs are these properties combined as they are in the opiate group. In the emergency medication of war times opium and its alkaloids, especially morphine, are the medications most responsible for the saving of life and reason. It is not necessary to argue this point with any intelligent physician or surgeon. For the benefit of the laity, however, and for the benefit of the occasional fanatic and hysterical reformer it is well to state that without the use of morphine and other opiates the mortality among the wounded and sick at the front would be vastly greater and that many of those who might survive in spite of its nonadministration to them would bear for the rest of their lives physical and mental consequences of gravest character. The lives and the minds that have been saved by the timely administration of an opiate drug are incalculable. One has only to talk with those who have worked under the stern necessities and emergency conditions of warfare, to appreciate this fact. There is no known drug which will replace clinically and therapeutically the opiate group. At present it is as indispensable in meeting emergency indications as is the scalpel of the surgeon.

It is unfortunate that about the opiates in the popular mind as well as in the minds of too many of the medical profession, has developed a glamour and an association of sensuous enjoyment, debauchery and morbid appetite. The keynote to this was struck by DeQuincy in his "Confessions of an English Opium Eater," and has persisted as a popularly dominant theme in a spectacular presentation of a minor aspect of narcotic result, nourished and kept alive by psychologists and psycharists, sociologists and lay writers, to the obscuring of the vastly more important and vastly more common manifestation and action of opiate drugs. It is a fact that the administration of opiate drugs under certain conditions and especially in certain types of individuals will be followed by euphoric sensations, dreams, stimulated imagination and other psychological manifestations of common knowledge. On the basis of the widespread overemphasis upon these manifestations, the too popular and erroneous conception of opiate use is based with a consequent hysterical, impractical and morbid outlook. It is not generally known that in a vast majority of cases to which opiates have been administered for therapeutic purposes and even in those in whom opiate administration has been continued to the extent of addiction development, these dreams, euphoric sensations, etc., have never been experienced. The vast majority—even of those addicted—have never experienced pleasurable sensations from the administration of opiate drug. This is a fact which is capable of corroboration. They do not use opiates because they like them, but because they have to have them, and it should immediately be taught that it is only in certain types of individual or under certain conditions of drug administration that any pleasure arises from the administration of opiate drugs. There is no educational propaganda which would be of more value in the combating of the popular opposition and fear of all opiate administration than the presentation of

these facts. Such effects are, as a rule, absent following therapeutic administration.

It would be entirely unnecessary to discuss or to apparently defend the use of narcotics in war times if it were not for the fact of recent recognition of the wide existence, rapid growth of opiate addiction in the civilized world. Combined with this is the idea, continually increasing that, as a result of prolonged opiate administration, a certain proportion of our troops will develop this condition. If the facts of addiction were widely known there should be no hysteria concerning and no criticism against opiate medication; even if unavoidably continued to the point of creating this disease. That opiate addiction is and will be one of the medical problems of this war is recognized and must be openly met. In many cases, just as in private practice, the physician is confronted by a choice of evils. To save life or reason he must continue opiate medication even into and past the danger zone of beginning opiate addiction. The appreciation of this fact is becoming a matter of popular recognition and comprehension, and in the present status of narcotic addiction this popular recognition contains grave dangers of hysteria and undeserved and irresponsible criticism. That this criticism is based on ignorance will make it none the less unpleasant and hampering to efficient service.

It should be at once and widely taught that the cases of opiate addiction that follow the war-time administration of opiate do not constitute a new medical problem, but are simply the continuation of conditions which have existed unappreciated and unremedied in this country for over half a century.

When the conditions under which wounded and sick must be handled in the emergencies of warfare, and the higher percentage of urgent and severe cases, are taken into account, it will be found that the proportion of wounded and sick soldiers who will come home from service with this addiction disease is no greater, and is very probably not so great as the proportion of people in private life who have, in the past, contracted this disease and who are even at present contracting this condition as a result of opiate medication, unavoidably or otherwise continued to the point of addiction.

The only reason that this is not now a matter of general recognition and of wide understanding is that well-meant ignorant writers have laid so much stress upon the spectacular and morbid manifestations of underworld and other psychically abnormal and unstable individuals who happen to have addiction, that the popular and even the scientific conception of a narcotic addict is expressed in the term of "dope fiend." The attraction of the morbid and the tendency towards emphasis of the spectacular are very common attributes of the human brain, and many an important fact, the recognition and appreciation and intelligent interpretation of which would point the way towards obvious conclusion and rational remedy lies hidden and unobserved in the glare of the red fire of more spectacular incidentals.

These spectacular incidentals have been the capital and basis of propaganda for the charlatan and the professional performer. Emphasis upon them to the exclusion of the more constant and basic facts of addiction has reacted upon legislators and administrators and the medical profession itself in the creation of the present narcotic situation. There has been altogether too much spectacular painting and presentation of the addicts who show morbid manifestations, and there has been, until very lately, an almost entire disregard of narcotic addiction as it

exists and has existed for many years in the average individual.

Narcotic addiction fundamentally, and as it exists in unknown and unsuspected hundreds of thousands of normal, upright and worthy individuals in all walks of life, from the banker and the judge, and the minister and the physician and the business man, down the entire social scale, and in all lines of human activity and interest, is the narcotic addiction that should be studied and its facts presented to the public. The results of failure to do this in the past are expressed in the condition of the present; endless laws and administrative regulations, practically nothing of clinical or therapeutic appreciation and a golden harvest for the charlatan and shyster and the criminal and underworld commerce.

When the facts of addiction development as a result of unavoidable military therapeutics become known, and they are rapidly becoming known, it will be well to remember and of great value as a balance wheel, that these conditions are no different and exist in no greater relative proportion than the same conditions in civil life and practice in pre-war times. The only difference lies in the fact that in civil life and in pre-war times the typical narcotic addict, who is the average normal man and woman, lived and worked and had his being with his disease undetected and unsuspected, his only mental, psychical and other abnormalities arising from the fact that he lived in constant fear of the detection of his disease and of being rated a "dope fiend," with all that that has hitherto implied in supposed degeneracy, abnormality and deterioration.

As to the illegitimate or non-therapeutic contractor of the addiction condition within the ranks of the army, its dangers are no greater and possibly not as great as in civil life. Some non-medical cases of addiction will develop within the ranks of the army. In anticipation of possible spectacular disclosure and hysterical discussion and criticism and attempts at so-called reform, it may be said that army life and activity and training will probably save thousands of adventurous and more or less idle and ignorant youths imbued with the spirit of curiosity and with lack of normal outlet for physical and nervous surplus energies, from the associations and environment which have, in the past three or four years, contributed so largely to the tremendous increase of the addict of non-medical origin.

It is my belief that the present gathering together under conditions of discipline and training presents an opportunity for the education of the youth of this country as to the physical facts of opiate addiction which should be of incalculable benefit in the solution of the narcotic problem as a whole.

Space is lacking in this paper for the detailed discussion of the physical facts of addiction and of the clinical characteristics and symptomatology and physical phenomena which are its invariable concomitants, which are peculiar to it and which stamp it as one of the most definite clinical conditions and diseases of internal medicine. These characteristics, symptoms and physical phenomena occurring in the newly born, capable of invariable development in experimental animals, are sufficient proof of the existence of a tangible, ever constant, absolutely definite physical mechanism, existing in every case of narcotic addiction, irrespective of what its individual, mental or psychical characteristics may happen to be. The one constant fact of narcotic drug addiction is that it manifests invariably and inevitably and directly consequent upon the continuous and prolonged administration of narcotics to any red-blooded animal, agonizing physical suffering and

peculiar physical signs which can only be the direct manifestation of the workings of a physical mechanism, developed within the body as a result of prolonged opiate medication; and that this physical mechanism in the production of its symptomatology, physical phenomena and signs and physical suffering, is capable of complete and immediate control only by the administration of opiate drug, so long as the activity of this mechanism has not been completely arrested by competent clinical treatment.

I have gone into details of these things far more completely in previous papers. The foregoing opens to discussion the other legitimate use of narcotics in war time. This use is the intelligent administration of opiate in the control and therapeutic handling of whatever cases of addiction are found to exist or shall come to exist within the army. The situation within the army as regards addiction will in a general way be identical with the situation existing in private life. The man who has developed opiate addiction disease will have to have his opiate supplied to him intelligently and with proper appreciation of the symptomatology and reactions of this addiction disease condition until there is equipment and educated personnel provided for him to get intelligent and competent handling. Under any other immediate arrangement the addicted soldier, just as the addicted civilian, will in his desperation and the physical torments of bodily need for opiate drug, endeavor to smuggle, steal or otherwise obtain in any way possible this necessary medication.

I appreciate that fanatics and reformers will severely criticise the statement I have just made. I have argued it more extensively in previous papers, especially in a paper on "The Rational Handling of the Narcotic Addict," read before the Section on Pharmacology and Therapeutics at the Annual Convention of the American Medical Association in 1916 by arrangement of Martin I. Wilbert of the United States Department of Health.

As a result of practical experience and absolute failure of other endeavor, the tenets of this article are now rapidly being adopted. If further proof or evidence is needed, the transcribed testimony of the New York Legislative Committee, under the able and wise leadership and direction of its chairman, Senator George H. Whitney, will supply it. The hearings of this committee and the information contained in the testimony presented before it, will mark one of the first milestones in the proper appreciation of the condition of narcotic drug addiction and its practical handling.

In brief, then, and to recapitulate, the legitimate use of narcotics in the army in war time will be roughly divided into two broad divisions: The necessary administration of morphine to those who are not addicted for the control of emergency or other indication, with which every competent physician or surgeon is familiar. To use morphine in such cases is not only legitimate, but failure to use it would be inhuman and barbarous and result in the loss of hundreds of thousands of lives and the making of wrecks of hundreds of thousands of others. Second, the administration of opiates to those unfortunates, who either through their own ignorance or carelessness or through unavoidably prolonged legitimate or necessary medication have developed in their body the condition of opiate addiction disease—until such time as they can be either furloughed or discharged from active service for the radical arrest by competent medical care of their addiction disease mechanism.

I have a considerable amount of direct

and authoritative information as to conditions and upon specific cases as they existed both before and after our entrance into the war. This is not the time nor the place for detailed discussion of that information. It should, however, suffice to still the voice of any objections and irrefutably answer any arguments against what I have written above. The laity and the mothers and relatives and friends of those in the army and navy will not exhibit panic and fear once the intangible horror and the vague and morbid and erroneous picture of the "dope fiend" is erased from popular conception and replaced by a comprehension of a definite physical disease clinically controllable and therapeutically remediable.

As to what extent narcotic drug addiction disease is going to be a medical sequella of war and of necessary war-time medication, it is now too early and useless to speculate. There was undoubtedly a considerable amount of it following the Civil War, occasional cases of which still exist among the veterans of that struggle, dating back to war-time medication. The Spanish War and necessary medication added to the list of war-time contracted addiction sufferers. Of addiction among those participating in this war, it is at present only possible to recognize the condition as existing.

At a meeting of the Medical Society of the County of New York, where addiction was discussed, Dr. Earle B. Downer, who had been in Europe from the beginning of the struggle, after stating plainly conditions and necessities for opiate medication, and giving an impression of addiction as a result of that medication, summed up the situation somewhat as follows: He said that there were going to be many war-time addicts, unavoidably and necessarily. These addicts were suffering through no fault nor indulgence of their own. When the war was over, and they came for relief, were they to be considered by the medical profession and the laity as degenerates and "dope fiends," or were they to be received and treated as sick people who needed and deserved sympathy and medical help. There must be a great deal of revision of past ideas and past attitude, and there must be a rapid education as to the available facts of narcotic addiction and its humane and rational handling if those of our own soldiers who return addicted, are not compelled to pay an unnecessarily high price for their services to their country.

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MOSQUITO ERADICATION IN SOUTHEASTERN PENNSYLVANIA.

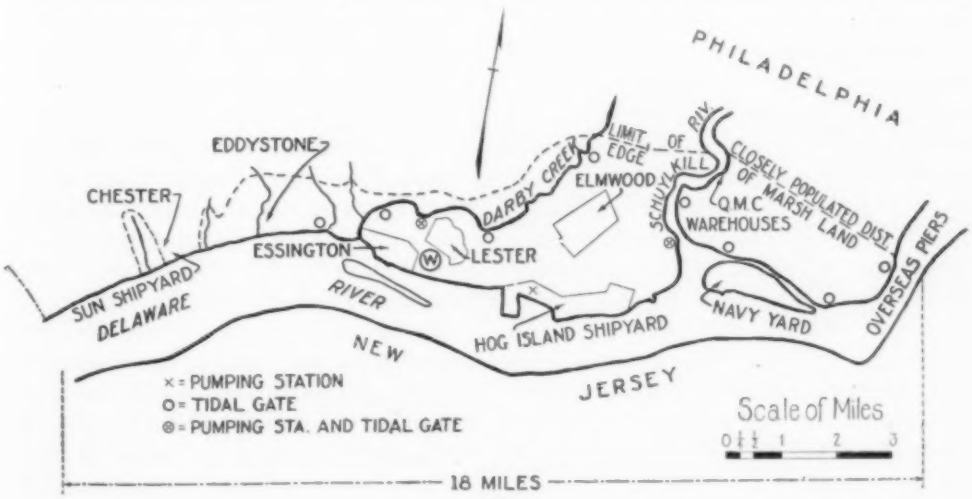
B. Franklin Royer, M. D.,
Acting Commissioner of Health of Pennsylvania,
and
C. A. Emerson, Jr., C. E.,
Chief Engineer, Pennsylvania Department of Health, Harrisburg, Penn.

There were a great many problems at Hog Island and the mosquitoes formed one of no mean magnitude. What Dr. Royer and Mr. Emerson have done is given in considerable detail because the paper tells other men in other malarial districts what can be done; how to organize and how to accomplish results.

THE southern portion of the city of Philadelphia and the eastern part of Delaware County, comprising a total area of about twenty-five square miles, are for the most part below the elevation of high tide. Vast stretches in this area are unproductive marshland, affording breeding places for millions of mosquitoes which have long been a source of great annoyance to residents in and adjacent to the area and the cause of sporadic cases of malaria.

America's entry into the world war caused a great influx of labor from malarial countries to the industries in this district, making these mosquito breeding swamps a menace to health of prime importance, of interest not only to the municipal but to the state and federal governments. In addition, the interference with the comfort of over 50,000 laborers employed in essential industries in the district and of the 150,000 or more population residing in the territory or on adjacent high lands within easy flight range of mosquitoes breeding in the marshes, had to be considered.

Among the great industries directly affected by this mosquito pest are the Emergency Fleet Corporation at Hog Island, the Sun and the Chester Shipyards, the League Island Navy Yard,



the Westinghouse Electric & Manufacturing Co., the Baldwin Locomotive Works, the Remington Arms Company, the Eddystone Munitions Company, two active rifle ranges, Quartermasters' Storage Depots, Government Embarkation Piers, great coal and merchant piers, enormous oil refineries, etc.

The district has a frontage along the Delaware of approximately eighteen miles and a maximum depth back from the river of about three miles. The total frontage on the Delaware, the Schuylkill and large tidal creeks crossing the area is in excess of thirty-five miles.

Many years ago dikes were constructed along the streams; numerous tide gates were installed and two pumping stations constructed, to hold back the tides and to remove storm water and seepage through the dikes in order that much of the territory might be available for agriculture. The district has gradually developed, the railroads and frontage on navigable rivers offering unusual facilities for commerce, so that now we find numerous villages, the boroughs of Marcus Hook and Eddystone and the city of Chester, in the southern and central portion of the district with the great city of Philadelphia constantly encroaching on the marshland from the north.

The city of Philadelphia had maintained dikes, tidal gates and the pumping station and tributary ditches controlling the five or more square miles of this territory within the city limits. In the Delaware County portion of the territory, however, the dikes were leaking or had actually been breached, tide gates had become useless through neglect, the pumping station had been removed, and drainage ditches had silted full, so that at each high tide much of the territory was flooded.

Early in the spring of 1918 surveys were made and preliminary estimates prepared for abatement of the mosquito menace. After several conferences between the various interests a coöperative scheme was adopted whereby the Emergency Fleet Corporation, the city of Philadelphia, the Navy Department, the Westinghouse Electric & Manufacturing Co., the Atlantic Refining Company, the Pennsylvania State Committee of Public Safety and Defense, the Adjutant-General's Department and the State Department of Health would provide funds or materials to the extent of approximately $275,000 to be spent by the several interests in accordance with the approved plans under the general direction of the state department of health for eradication of mosquitoes in the district during 1918.

The problem was so great and time so limited that it was apparent effective work could not be performed over the entire area in a single season under existing labor conditions. Accordingly it was determined that the first year's work should be confined to an area of about ten square miles having a frontage of approximately eleven miles along the Delaware and extending from Oregon Avenue in Philadelphia, the limit of the low district on the north, to the mouth of Darby Creek on the south.

The generally low elevation of the surface, the great value of the territory for agricultural and for manufacturing purposes, together with the dikes, main drainage canals, tidal gates and drainage pumping station already constructed, made impracticable the adoption of the open ditch drainage system employed on the salt marshes of New Jersey and Long Island with such good results.

The approved plans contemplated repair of dikes and tidal gates and installation of additional pumping stations together with extension of the system of drainage channels and lateral ditches, so that the entire area could be unwatered

and made available for use. As a temporary measure pending completion of this comprehensive program oil and larvicide were to be freely used.

Five pumping stations were planned—three in the territory south of the Schuylkill and two in South Philadelphia. Of these stations two were already available, the Mingo Creek Pumping Station owned by the city, containing two 36-inch diameter, steam driven, centrifugal pumps and a new storm water pumping station in the Hog Island Shipyard containing one 30-inch, electrically driven, centrifugal pump. The effectiveness of the municipal pumping station was increased by providing a motor drive for one of the pumps to supplement the boilers and the area served by the shipyard pumping station was extended by the construction of main drainage channels leading into the yard from adjacent territory. The third pumping station necessary to complete the control of this district was installed by the state department of health and contains a 20-inch, motor driven, low service, centrifugal pump. These three stations have a total rated capacity of approximately 125,000 gallons a minute or sufficient to handle the greatest volume of storm water which the government records indicate may reasonably be expected to fall upon the area south and west of the Schuylkill within any six-day period from the middle of March to the middle of October with a good reserve capacity to care for leakage through the dikes or unusual storm conditions.

One of the first problems was the cleaning and deepening of many of the old dredged channels and natural creeks which formed the main arteries of the drainage system. Additional main channels were constructed, using floating dredges, power excavating machines of various types and in some instances, hand labor. Many miles of narrow lateral ditches were cut through the marshes to lower the general water level and to drain isolated pools which had been formed by construction of railroad and trolley lines, highways and building operations without regard to natural drainage features. This necessitated much incidental work such as lowering of existing and installation of additional culverts beneath main railroad tracks and highways, construction of bridges, removal of telegraph poles, blocking up of buildings, etc. Existing tidal sluice gates were repaired and additional gates installed in sections remote from the pumping stations.

The existing dikes were riddled with rat holes and in some places were of in-

View of State Department of Health Pumping Station on Darby Creek before starting pump.

Pumping Station on Darby Creek after pump had been placed in service. Man in middle background is standing at elevation of high tide on the outer side of the dike. Man in middle foreground is standing at level of water surface as maintained by the pumping station.

sufficient height to exclude storm tides and in others had actually been washed away. The dikes were raised and strengthened in the district adjacent to the pumping station and a regular patrol was organized for maintenance purposes. In the remote districts where the faulty condition of the dikes did not interfere so greatly with successful operation of the pumping station the repair work was postponed until the end of the calendar year.

Work was not commenced until the mosquito breeding season had actually begun and accordingly a great deal of time and money had to be expended in oiling water surfaces and in cutting marsh vegetation to expose the water surface for oiling pending completion of the pumping stations, main channels, dikes, etc. For the oiling operations six central stations having storage tanks of 500 or 1,000 gallons' capacity were established at convenient points throughout the territory. Oil was pumped from these tanks into five-gallon cans and hauled by light motor trucks or wagons to the nearest accessible point and then carried by hand to the oiling gangs in the marshes. The entire area was divided into inspection districts of such size that one man could cover a district in a single day. Each district was inspected once every ten days. The inspector would mark with a red flag each pool where breeding was found and make note of faulty drainage conditions. An oiling gang followed the inspector and the foreman was required to oil thoroughly any pool where a flag had been placed, also to collect the flags as evidence that his men had covered all places needing attention. A general inspector then followed, checking the efficiency of the oiling gang and also the thoroughness of the work of the regular district inspector.

At the beginning of the season there was a dearth of trained inspectors. Accordingly a training school was established and inspectors were put through a regular course for about three weeks to fit them for field work.

Typical main collecting channel leading to Pumping Station.

In order to check the efficiency of the work and to determine the direction of mosquito invasion from outside the district a weekly system of night collections was inaugurated. All mosquitoes captured at each collection point were taken to the laboratory for identification. The various species of mosquitoes found in the district are given in the table on page 332.

In addition to the work in the marshes it was necessary to oil the surface of liquid in the tanks of sewage treatment plants, to treat the water in hundreds of fire pails and fire barrels at building operations, to clean and oil many miles of street gutters, etc.

Local boards of health in eight municipalities bordering on the marshland were instructed in methods for elimination of mosquito breeding throughout their respective towns.

At times as many as 600 laborers and skilled employees were engaged on the work. The following summary gives a

good measure of the main features of the field work:

Total quantity of oil used	55,000 gallons
Existing ditches and channels in area	120 miles
Ditches and channels cleaned	45 miles
Vegetation mowed to expose surface of water for inspection and oiling	1,750,000 sq. ft.
Maximum water surface requiring oil treatment as temporary measure	8,500,000 sq. ft.
Main dikes repaired and strengthened	10,300 lin. ft.
Main channels dredged or deepened	30,000 lin. ft.
Main ditches excavated	21,500 lin. ft.
Small lateral ditches excavated	95,000 lin. ft.

Typical lateral ditch through marsh.

The tides in the district are due to backing up of the river waters by tidal action in Delaware Bay and normally salt water does not occur within ten miles of the territory covered this past summer. The manufacturing wastes discharged upon meadowlands by one of the large industries in the district were sufficiently saline to turn the fresh water marshes into a favorable breeding place for typical salt marsh mosquitoes. This condition was remedied by requiring the company to install a temporary station to pump these wastes into a nearby combined city sewer where they would flow to the Delaware pending permanent rearrangement of the drainage system from the plant.

Several lessons may be drawn from this work, the following being among the most important:

(1) Mosquito eradication work to be successful should embrace the entire general area where breeding places occur. Limiting the work to political subdivisions, operating independently, is not practicable.

(2) A comprehensive coöperative project embracing private corporations, municipal and state agencies is practical, providing the work is performed in accordance with a comprehensive plan previously approved by the various interests concerned, and general direction of the project placed in some unbiased central organization, so formed either by law or mutual consent that its jurisdiction covers the entire territory. This would seem to indicate that general supervision should be placed in some permanent, central authority having uniform powers and responsibilities, such as the state department of health.

(3) Benefits of mosquito eradication work are far-reaching, and include not only increase in value of properties within the immediate district but also general real estate values within a wide area. The same applies to the benefits to public health.

(4) The powers possessed by most state organizations are not suitable for undertaking work of this nature as a routine procedure. It would be desirable that the cost should be borne directly by the properties benefited in proportion to the benefits received, and legislation should be enacted whereby the central authority

can assess benefits either by collection of taxes in accordance with the usual practice or by condemnation and resale of the property. Such legislation should also provide funds for maintenance purposes.

The work carried on under the conditions set forth in this paper has had beneficial results as is proven by the fact that complaints from residents and workers in the district were almost unknown this past summer and that preparations are now being made for the cultivation of large areas of land which for years have remained idle, covered with a luxuriant growth of weeds and water vegetation.

Plans are being prepared for extension of the work next year through the district to the south of that brought under control this past season, and it is hoped that legislation will be enacted whereby this work undertaken as a war measure can become a permanent adjunct of the work of the state department of health, being gradually extended throughout all portions of the state where mosquitoes are sufficiently abundant to interfere with the comfort and health of the citizens.

TABLE SHOWING VARIOUS SPECIES OF MOSQUITOES FOUND IN DISTRICT.

Culex pipiens	(rain barrel or house mosquito). Predominant species throughout territory after July 1st.
Ædes sylvestris	(fresh water swamp mosquito). Predominant species during early summer, decreasing in number as season advanced.
Ædes sollicitans	(white-banded salt marsh mosquito). Taken in territory surrounding Pennsylvania Salt Works.
Anopheles punctipennis	(malarial mosquito). Found in relatively small numbers and scattered breeding places throughout territory. Believed to carry malaria.
Anopheles quadrimaculatus	(malarial mosquito). Found in relatively small numbers and scattered breeding places throughout territory. Known to carry malaria.
Culex territans	Closely resembles *Culex pipiens*. Larvæ found frequently during latter part of season. Does not bite.
Psorophora ciliata	(predacious mosquito). Found in considerable numbers during early part of season, particularly west of Schuylkill River. Largest species in the state. Larvæ feed on those of other species and on each other.
Ædes subcantans	(brown woods mosquito). Taken occasionally during early part of season.
Coquillettidia perturbans	(irritating mosquito). Several specimens taken.
Ædes trivittatus	Several specimens taken.
Uranotænia sapphirina	Several specimens taken.
Ædes curreii	Found in considerable numbers during June. Very occasionally after that date. Not previously reported for Pennsylvania or eastern United States. Supposed to be a fresh water form of *Ædes onondagensis*, a salt water marsh species of the Pacific Coast. Previously reported in the arid regions of the West and in Canada.

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SPECIAL NOTICE—NEW ORLEANS, OCTOBER 27-30, 1919.

Do not forget to make note of the real date of the A. P. H. A. meeting at New Orleans. The executive committee has found that a later time than first suggested will be better for the meeting. For that reason the date has been definitely fixed for October 27–30. Kindly erase the old date from your memorandum and substitute,

"On to New Orleans, October 27-30, 1919."

THE EXAMINATION OF B. COLI IN WATER

REUBEN L. KAHN, D. Sc.,
Captain, Sanitary Corps, U. S. Army, Department Laboratory, Southeastern Department, Atlanta, Ga.

Read before Laboratory Section, American Public Health Association at Chicago, Ill., December 9, 1918.

Dr. Kahn goes at the technical details of his examination directly and clearly. He presents the results of experience for the benefit of others in proper sequence and without argument.

1. *Introduction:* In previous studies from this Laboratory[1] the author suggested a simplified procedure for the confirmatory test for B. coli in water. This procedure has been applied during the past nine months to about 300 waters from the Southeastern area of the United States. The tests during this time were completed, as a rule, in from 36 to 48 hours. By this method, lactose fermenting anærobes also, were determined with comparative ease.

This paper will discuss the various phases of the test and will give an outline of the procedure as carried out in the Department Laboratory.

2. *The Presumptive Test:* The medium employed for the presumptive test is standard lactose broth. The employment of a dilute bile medium (250 cc. ox gall in 1,000 cc. lactose peptone broth), appeared promising for a time, inasmuch as it seemed to retard the growth of non-colon forms in highly contaminated waters. This medium, however, was abandoned because of variations in the composition of bile and particularly because of the desirability of employing a standard medium.

The fermentation tests are carried out by means of large test tubes with inverted vials; each tube containing from 11 to 12 cc. of broth. The dilution of the nutrient constituents of the medium resulting from the addition of 10cc. quantities of water to any of these tubes does not appear to interfere with the delicacy of the test. Ten cc. quantities of water were added, in duplicate, to Smith fermentation tubes and to test tubes with inverted vials containing the same medium, and gas production observed after incubation. Over 100 such comparative tests carried out with waters sent to this laboratory for examination revealed no marked change in gas production in the two types of fermentation tubes.

We are not concerned with the amount of gas produced in lactose broth after inoculation with water. The fact that there is gas present is sufficient to warrant a confirmatory test for B. coli.

3. *The Preparation of Endo Medium:* Endo tubes instead of Endo plates are employed, and the medium is prepared in the following manner: Stock quantities are kept on hand of sterile 2 per cent nutrient agar titrated to 0.2 to phenolphthalein; also a sterile solution of lactose and a saturated solution of basic fuchsin in 95 per cent alcohol. Just before tubing, a desired quantity of agar is melted in the Arnold and is rendered 1 per cent lactose and 0.4 per cent fuchsin. The medium is now brilliant red. Enough fresh sodium sulfite is added to render the hot medium light pink (approximately 1 gram of crystalline sodium sulfite or 0.5 grams of the anhydrous salt per cc. of saturated solu-

tion of basic fuchsin). The tubing is carried out in the dark and with reasonable care to prevent undue contamination. Sterilization is accomplished in the autoclave from 5 to 7 minutes at 10 pounds pressure. The tubes are then slanted in the dark, after which they are placed in the icebox and are ready for use. These tubes will keep about three weeks.

4. *The Confirmatory Test:* If B. coli are inoculated by means of a straight wire into the butt and on the slant of Endo tubes, gas and reddening of the medium will appear in the butt and typical colonies on the slant—after 12 to 24 hours incubation. This is the underlying principle of the confirmatory test.

At the appearance of gas in lactose broth fermentation tubes, straight wire inoculations are made from the tubes showing gas, into the butt and on the slant of Endo tubes. The presence of gas in the butt and typical colonies on the slant of these tubes after incubation is considered a positive test for B. coli.

5. *The Differentiation of Lactose Fermenting Anærobes from B. coli:*[1] If a lactose fermenting anærobe be inoculated in the butt and on the slant of an Endo tube, we would expect gas production in the comparatively anærobic butt and no growth on the slant. However, our experience with the behaviour of anærobes found in the waters of the Southeastern area of the United States leads us to believe that probably most lactose fermenting anærobes are able to grow; neither on the slant nor in the butt of Endo tubes. This may be due to the toxicity of the fuchsin, or it may be that the butt of an Endo tube is not sufficiently anærobic for strict anærobes. Whatever the explanation, if gas in lactose broth was due to an anærobe, inoculation in Endo tubes brought forth no growth whatsoever in the butt of those tubes—after prolonged incubation.

Based upon this finding, gas production in lactose broth is considered to be due to an anærobe, if after inoculation in several Endo tubes and 48 hours incubation, either no growth appears in those tubes or a non-colon growth appears on the slant with no gas in the butt.

6. *The Differentiation of Fecal from Non-Fecal Strains of B. coli:* When attempting to differentiate fecal from non-fecal members of B. coli isolated from water, it was observed that those organisms which produced typically metallic colonies on Endo medium gave, as a rule, a positive methyl red and negative Voges-Proskauer test, while those organisms which produced pink non-metallic colonies on Endo medium gave a negative methyl red and positive Voges-Proskauer test. This led to the view that Endo medium might possibly serve as a means for differentiating members of the colonærogenes group,[2] and the following experiments were accordingly carried out: 75 typically metallic colonies of B. coli were picked from an equal number of Endo plates, previously inoculated with human feces—of different origin. On inoculation in Endo tubes, all these cultures produced gas anærobically—in the butt of these tubes. Their behaviour toward the methyl red and Voges-Proskauer tests was next studied. All these organisms were acid or neutral to methyl red and all gave a negative Voges-Proskauer test. B. colaca and B. ærogenes were then obtained from different workers. Four cultures were obtained from Professor Rettger; five from Dr. Rogers; three from Professor Levine, and four from Mr. Rothberg of the American Museum of Natural History.* All these cultures, with one exception, gave a negative methyl red and positive Voges-Proskauer test, and all, with the

* The writer desires to express his indebtedness to those gentlemen for furnishing these cultures.

same exception, produced pink non-metallic colonies on Endo medium.

Without drawing any definite conclusions from these findings, we consider those members of the colon group which produce typically metallic colonies on Endo medium as most probably of fecal origin, while those which produce non-metallic colonies on Endo medium, as either of fecal or non-fecal origin.

It is not improbable that the metallic and non-metallic colonies on Endo medium represent two different processes of metabolism of the colon and colaca-ærogenes groups of organisms.[1] Both groups, when grown on Endo medium, probably split the lactose into lactic and other organic acids. And this may be the dividing line of the colon group from the colaca-ærogenes group. B. coli probably further reduce the lactic acid into aldehyd and other volatile substances. These substances evaporate on exposure to air, leaving the non-volatile fuchsin behind, thus rendering the colonies metallic. B. colaca and B. ærogenes, on the other hand, probably stop at the lactic acid stage. This acid has a tendency to absorb moisture, which tends to keep the trace of fuchsin in solution; the result being, that the colonies are pink but not metallic.

With regard to the sanitary significance of those organisms which give a negative methyl red and positive Voges-Proskauer test, and produce non-metallic colonies on Endo medium, it is well to add that 50 such cultures were isolated in this laboratory from as many specimens of human feces. Recently, Rogers, Clark, and Lubs,[3] out of 177 cultures of the colon-ærogenes group isolated from feces, found 46 which gave a negative methyl red and a positive Voges-Proskauer test. Winslow and Cohen[4] also, in related studies, conclude that "the significance of the ratio between B. coli and B. ærogenes in the sanitary examination of water seems somewhat dubious."

It appears that the only safe conclusion one may draw at this time is that those organisms which give a negative methyl red and positive Voges-Proskauer reaction and produce pink non-metallic colonies on Endo medium, *may or may not be of fecal origin.*

7. *An Outline of the Examination of B. coli in Water:*

(1) Duplicate quantities of 10 cc., 1 cc., and 0.1 cc. water (higher dilutions in cases of contaminated waters) are inoculated in large lactose broth tubes containing inverted vials and incubated at 37° C.

(2) At the appearance of gas in the lactose broth tubes within 48 hours incubation, straight wire inoculations are made from each of these tubes showing gas, to the butt and slant of Endo tubes.

(3) After about 15 to 48 hours incubation of the Endo tubes, the presence of typical or semi-typical colonies on the slant with gas in the butt is considered a positive test for B. coli.

(4) If there be no growth in the Endo tubes after 48 hours incubation, or a growth on the slant which is entirely unlike that of B. coli (with no gas in the butt), the gas produced in lactose broth, is considered to be due to an anærobe.

(5) Waters are also considered negative for B. coli if, after inoculations in lactose broth tubes, gas fails to appear after 48 hours incubation.

(6) A record is kept of all water analyses; and when the test for B. coli is positive, an agar slant is made from an isolated colon colony and the morphology of the organism further studied—this with a view of determining whether organisms not belonging to the colon group are

capable of producing colon-like colonies on the slant and gas in the butt of Endo tubes.

The writer desires to express his indebtedness to Major Homer L Conner, Commanding Officer of the Laboratory, for helpful suggestions in connection with this paper.

REFERENCES.

[1] Kahn, R. L., J. of Bact. 3, 547–564, 1918.

[2] See Levine, M., Proceed. Soc. Amer. Bact. Dec., 1917; Abstract of Bact. 2, 13, 1918.

[3] Rogers, L. A., Clark, W. M., and Lubs, H. A., J. Bact. 3, 231, 1918.

[4] Winslow, C. E. A., and Cohen, B., Proceed. Soc. Amer. Bact., Dec., 1917. Abstr. of Bact. 2, 4, 1918.

MASSACHUSETTS HEALTH COMMITTEE'S QUESTIONS AND ANSWERS.

One of the very recent activities of the Massachusetts Health Committee has been the establishment through the newspapers of means of informing the people on matters of health. In a number of the leading newspapers in the principal cities popular health departments have been established. These vary in name, as may be seen from the illustration, but the purpose is the same in all, to furnish a means whereby the questions of the people may be answered and at the same time much general information of real educational value set forth.

How to Keep Healthy
Expert advice on matters pertaining to health, hygiene and sanitation offered free of charge to Gazette readers by Massachusetts Department of Health. Send in your questions.
Expert Advice Free On All Health Questions Through The Gazette
THE ROAD TO HEALTH
The State Department of Health Answers Questions from Readers of The Standard on Matters Pertaining to HEALTH :: HYGIENE :: SANITATION
For Your Good Health
State Health Department to Answer Questions from Union Readers on Matters of Health, Hygiene and Sanitation.
The Ways to Health
State Health Dept. Answers Queries of Traveler Readers
Chronic Cough Matter of Concern
Health Editor, Boston Traveler:
Red Tape.

The committee has provided a means of furnishing answers through one or more of the authorities of the State Department of Health, a procedure that ensures both promptness and reliability. Of the many questions that will come into such newspaper departments, some will be of course, of individual consequence only, and these are answered by mail. On the other hand, there are other questions of wide interest and these are answered in the newspaper to which they were originally sent, and the other papers may use them if suitable to their readers.

This popularization of health education is one of the many ways in which the Massachusetts Health Committee is doing its part in the health work of the day.

VENEREAL DISEASE CONTROL IN THE MILITARY FORCES.

WILBUR A. SAWYER,
Major, M. C., U. S. A.

Read before the Sociological Section, American Public Health Association, at Chicago, Ill., December 11, 1918.

Major Sawyer asks this question,—"The army is being sent home clean. Will your community make it easy or difficult for the men to remain so?" His short paper is an introduction to the longer one that follows it.

THE war against Germany is over, but the war against venereal disease is only started.

A little while ago we were fighting venereal diseases to keep them down in the army and to insure the winning of the war. Now the experience of the War Department in venereal disease control is primarily of interest as a demonstration of facts and methods of value to the civilian health officials. What are these facts and methods?

We have had some new light on the prevalence of syphilis and gonorrhea among young men of the civil population. The draft brought in men from all walks of life and the records at the camps indicate that they brought with them the greater part of the venereal disease that the army has had to contend with. This was shown by the high venereal disease rates when large numbers of drafted men were being brought into the army and the relatively low rates at other times. It was shown more accurately by special reports, additional to those regularly required, which have been rendered by camps Upton, Dix, Meade, Lee, and Pike for a period of thirty-four weeks from March 29, 1918, to November 15, 1918. Taking these five camps together the annual venereal disease rates per thousand men for the entire period was 347.88. The rate for cases contracted in civilian life and recorded as of the date when first discovered was 336.96, while the rate for cases contracted since enlistment was only 10.92. Less than one thirtieth of the 45,022 cases in these camps in the period under consideration was contracted after enlistment under army conditions. For all the troops in this country, including organizations that have been longer in the service than the newly drafted men in the camps mentioned above, five to one is probably as close an estimate as can be made of the ratio between cases contracted before enlistment and those contracted afterward. The total number of cases reported in the weekly telegraphic reports from September 7, 1917, to November 15, 1918, for troops in the United States, is 203,054, giving an annual rate per thousand of 133.12.

These figures will suffice to show that venereal disease is a large problem in the civilian population and that the army problem is principally the result of civilian conditions which existed before the war, and should be corrected.

The War Department has demonstrated the practical methods of venereal disease control in army camps and in surrounding civilian communities. These methods are usually equally applicable to civilian communities throughout the nation.

Perhaps the most important characteristic of the surgeon-general's program was that it was balanced. The new thing was the combination of many consistent methods for reducing venereal disease.

When it appeared necessary to control conditions in the soldiers' environment, the War Department put army officers and social workers into the zones around the camps to see that the laws against liquor and prostitution and health laws, or regulations, concerning venereal diseases were enforced. In this work valuable assistance was rendered by the United States Public Health Service and the American Red Cross through the establishment of venereal disease clinics and isolation hospitals in extra cantonment zones.

After the first selective draft, it was apparent that the greatest sources of venereal disease were the towns and cities from which the men came. The army then appealed to the states through their health boards to face the problem of venereal disease in order to protect the soldier of future drafts. A splendid beginning was made by many state boards of health. State laws and regulations and city ordinances were adopted in many places in order to give the health officials the power needed.

Then Congress took notice of the demonstration of the prevalence of venereal disease and its preventability, and passed the Chamberlain-Kahn bill, which, among other provisions, created a Division of Venereal Diseases in the Public Health Service, thus making it possible for the service to take the leadership in venereal disease control in the civil population on a permanent civilian public health basis. In this way it was assured that the work started under the stress of war for the army would be continued in time of peace, and that venereal disease control would become a definite and permanent responsibility of the public health officials.

In the surgeon-general's program considerable emphasis was placed on preventing exposure to infection. This was done by education of the soldier, and to a lesser degree the civilian, through lectures, pamphlets and moving pictures. Probably the most effective educational method was the showing of the moving picture film "Fit to Fight" which was specially prepared for soldier audiences but has more recently been adapted for civilian audiences. The film "The End of the Road" has been completed and is aimed primarily for audiences of young women. Venereal disease lectures to the troops were given in part by company commanders and in part by specially qualified officers of the Medical Department, who traveled from camp to camp.

At the same time that the soldier was being informed about venereal diseases and was receiving appeals to keep himself fit to fight, the law enforcement group was at work in the nearby communities where the soldier spent his leisure time. As a rule cities coöperated with the War Department in suppressing vice but in some instances it proved necessary to put them out of bounds. The officers in the extra cantonment zones saw to it that the federal and local laws were enforced, that red light districts and houses of prostitution were closed, that street walking was suppressed and prostitution in hotels and lodging houses was kept at a minimum. At the same time arrangements were made, as far as the local laws would permit, to have all prisoners who were arrested for sex offenses examined for venereal disease and quarantined and treated if found diseased.

Great care was exercised, however, not to confuse quarantine with imprisonment. Patients released from quarantine, if they had been convicted before a court, and prisoners not found infected were returned to the court for sentence, and often there was quarantine of persons not charged with the violation of any law, strictly as a health measure.

One of the important parts of the program has been the activities of the social workers of the Section on Women and Girls of the Law Enforcement Division of the Commission on Training Camp Activities. The field workers are women with social service training and experience. It is their duty to keep young girls from getting into prostitution and they also see that the women who are arrested or quarantined are kept properly occupied in the detention houses, hospitals, or prisons, and study the cases while under confinement. When the cases under suspended sentence are brought before the judge after their quarantine for venereal disease is over, the social service worker plans to be on hand to advise as to the disposal of the cases, should the judge desire assistance, as he usually does. Cases that are paroled or that have finished their sentences are kept under supervision and the worker has a responsibility to see that there are few who get back into the old life. The aim is not to have vast institutions and to put the maximum number of people into them, but rather so to organize the community that prostitution is unsafe and unprofitable and is less demanded and that in the more hopeful cases women who have been prostitutes can be quickly made self-supporting in legitimate industry. Institutions are essential for such a plan. Some prostitutes are of so low a mentality that they need permanent custodial care; others need varying periods of instruction and discipline in a prison farm or school; and many need a period in quarantine in order to be cured, or at least made non-infectious. Under an able and experienced woman social worker, one who has vision and is optimistic because of previous successes, the social service and follow-up work becomes simple and extremely valuable. Moreover such a worker takes out much of the seeming harshness of the law enforcement and quarantine work. She looks after the legitimate interests of the patient or prisoner and often wins her confidence and friendship.

Such work as has been outlined diminishes exposures by reducing temptation of the soldier and lessening opportunity for prostitution. Another factor in reducing exposures is keeping the soldiers occupied by wholesome recreation. Athletics, shows, music, dances, and soldiers' clubs all help.

In the army the soldier who has been exposed is required to report for the prophylactic treatment in order to prevent venereal disease from developing. In many of our camps both the prophylactic rates and the rates for venereal disease contracted since enlistment have been very low and this must be laid to the success of the measures which tend to reduce the exposure rate.

Twice each month every soldier is examined for venereal disease. The soldier who is infected is treated and he is kept in the camp until non-infectious, in order to protect the community.

We have now entered upon the period of demobilization. Under orders issued by the War Department no man will be discharged with venereal disease until he is no longer infectious. The control work in and around demobilization camps will be similar to that around the training camps. The army is being sent home clean. Will their communities make it easy or difficult for them to remain so? The war has awakened the country to the need for venereal disease control. It has pointed out some practical methods consistent with American standards. The Public Health Service and the states are taking up the work and the movement will surely grow until venereal diseases are kept down to a small fraction of their present prevalence.

VENEREAL DISEASE CONTROL IN CIVILIAN COMMUNITIES.

C. C. Pierce,
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Read before the Sociological Section, American Public Health Association, at Chicago, Ill., December 9, 1918.

In the serious effort that is under way against venereal disease, in which the eyes of the people have been opened and their sympathy enlisted, there are many phases. This author presents a connected statement of the great broad work, its crying needs and the steps that have been taken to meet the need.

ON July 9th, the Army Appropriation Bill, Public 193, became a law. Chapter 15 of this bill created an Interdepartmental Social Hygiene Board consisting of the secretaries of war, navy and the treasury, or their representatives, and created also a Division of Venereal Diseases in the United States Public Health Service.

This chapter of the bill has been characterized by Surgeon-General Blue as the most important piece of public health legislation in recent years. It means that the long deadlock "on the western front" in the attempt to control venereal diseases, has at last been broken and we now have open fighting. It means that the United States government has recognized the venereal diseases as enemies of the public health, to be fought just as malaria, tuberculosis and hookworm have been fought. It means that the whole problem of venereal disease control is being approached from every possible angle. It means that the era of pessimistic beliefs and sporadic attempts at control has been replaced by an era of rational study, unbiased experiment and determined action.

Very many contributing factors are recognized; not one of them must be neglected if we are to attack this problem in the same sound, scientific spirit in which we have attacked other disease problems. Into it enter such other well-defined problems as those of general school education, playgrounds and recreation, economic readjustments, national customs, national psychology, morals and religion, etc.

It is obvious that the Public Health Service cannot and should not attempt to study all of these problems. It should, however, and does, welcome the coöperation of organizations qualified to make these studies, and their conclusions and recommendations are given careful and serious consideration. It must itself study the problem of the medical attack and the matters most closely related thereto, and endeavor to develop the best plan of action and secure its general adoption. As a basis for this, it starts from the excellent "Program of Attack," which has been carefully worked out by the office of the surgeon-general of the army, and which has just been described. It makes use also of suitable methods devised from time to time by the various state boards of health and by foreign countries, and is itself constantly at work through the various members of its staff.

In beginning its organization, the Division of Venereal Diseases of the Public Health Service is taking hold of the most obvious needs that so far have not been fully supplied. Matters of *law* enforcement on the other hand, so inti-

mately connected with any national or local campaign for the control of venereal diseases, are being so well handled by the Commissions on Training Camp Activities of the War and Navy Departments, that this phase of the work is, for the present, left entirely to those Commissions. The Public Health Service works in the closest coöperation with this organization.

But two great needs were especially evident when the Division of Venereal Diseases was created by Congress: 1. The need for an effective organization for venereal disease control as an integral part of every state board of health. 2. The need for educating the general public on the venereal disease problem as rapidly as could be done wisely and successfully.

We are meeting the first need by inviting each state board of health that had not already done so, to organize a bureau for the control of venereal disease in charge of a man of their own selection. The Public Service had appointed these men as acting assistant surgeons of the Service in order to give them further authority and backing and in order to conform to the regulations promulgated by the honorable secretary of the treasury on September 4, as required by the Act of Congress making available the funds for venereal disease control measures in the various states. Several of the states had themselves already organized such work months ago. In a few states, too, at the request of the health officer, a commissioned officer of the Public Health Service has been assigned for state control of venereal diseases.

In every case Service coöperation has been made only upon condition that the state board of health has adopted, or shall adopt, adequate regulations for the control of venereal diseases, and agrees to further this work to the best of its ability. By the provisions of the Congressional Act referred to, such states can then receive a government appropriation for venereal disease control, based on the size of their populations, ranging from $1,587 to Wyoming to $99,089 to New York State. This federal aid is given without other conditions for this fiscal year, but in order to receive a like amount during the next fiscal year, each state legislature must appropriate an equal sum. The following table shows the amount due each of the states:

Alabama	$23,247.15
Arizona	2,221.91
Arkansas	17,118.74
California	25,850.72
Colorado	8,687.66
Connecticut	12,120.57
Delaware	2,199.81
District of Columbia	3,599.66
Florida	8,183.11
Georgia	28,368.56
Idaho	3,540.13
Illinois	61,307.51
Indiana	29,366.20
Iowa	24,189.58
Kansas	18,385.42
Kentucky	24,897.77
Louisiana	18,009.65
Maine	8,071.68
Maryland	14,084.09
Massachusetts	36,602.51
Michigan	30,554.57
Minnesota	22,568.85
Mississippi	19,539.74
Missouri	35,807.91
Montana	4,088.76
Nebraska	12,962.75
Nevada	890.21
New Hampshire	4,681.54
New Jersey	27,586.22
New Mexico	3,558.70
New York	99,090.89
North Carolina	23,988.61
North Dakota	6,274.24
Ohio	51,832.16
Oklahoma	18,017.99
Oregon	7,314.87
Pennsylvania	83,341.55
Rhode Island	5,899.72
South Carolina	16,476.71
South Dakota	6,348.52
Tennessee	23,754.87

Texas	$42,366.49
Utah	4,059.39
Vermont	3,870.26
Virginia	22,415.58
Washington	12,416.68
West Virginia	13,277.04
Wisconsin	25,375.70
Wyoming	1,587.05

In two states medical officers of the army have been assigned to the Public Health Service for the venereal disease control work. Thirty-nine of the states and the Territory of Hawaii have adopted the main features of the model laws recommended by the surgeon-generals of the army, navy and Public Health Service for the control of venereal diseases. Thirty of these states have accepted the coöperation of the Public Health Service by placing an officer of that Service in charge of the work. In addition to five commissioned officers in charge of state control of venereal diseases, we now have twenty-six acting assistant surgeons, who are also appointed by the state boards of health for venereal disease control in those states. There are only eight states that have not yet (at the time of this meeting) complied with the regulations of the secretary of the treasury in regard to receiving their share of the allotment of the funds under the terms of the Chamberlain-Kahn Act. They are:

District of Columbia, for which a special Act of Congress is necessary, making venereal diseases reportable;

Michigan, in which state such a bill has been introduced;

Missouri, in which legislative enactment is necessary;

Pennsylvania, which has no law requiring the reporting of venereal diseases, but has sufficient funds with which to carry on such work as is desired;

Tennessee, in which the notification law is practically useless; and

New Mexico, Idaho and Utah, which states have not a proper law, but in which steps are being taken for the right kind of legislation

Altogether, approximately one hundred and twenty-five (125) clinics have been organized by the bureau in conjunction with state boards of health.

As the work has recently started, reports from these clinics are not yet tabulated and the exact number of patients treated in them to date is unknown. In addition to these, there are twenty-five (25) in extra-cantonment zones, under the charge of commissioned officers of the Public Health Service, which are designed primarily for the protection from venereal infections of soldiers and sailors from nearby military posts. These extra-cantonment clinics are under direct Service management. Approximately 30,000 persons have been treated in these clinics since January 1, 1918.

In this clinic work, the American Red Cross has heretofore generously coöperated financially, providing for equipment and supplies where these could not be otherwise obtained. Since funds have been made available to each state for venereal disease control work, such expenses must be partially borne by the state and by the community in order to develop local responsibility for venereal disease control work.

In the states which have passed adequate regulations, appointed a man and received the federal appropriation, the work for the control of venereal diseases is being organized along four chief lines:

1. Establishment of venereal disease clinics in towns sufficiently large enough to support them.

2. Education of the public on the nature of the venereal diseases and the means required for their control.

3. Law enforcement measures for the repression of prostitution.

4. Establishment of detention homes and other institutions for the proper

quarantine of cases dangerous to the public health and for the rehabilitation of persons of previously immoral life.

Clinics are established in the various sections of the state, particularly in the towns which reach a large outlying population, as well as in the larger cities. Each clinic is placed in charge of local doctors of suitable training and ability, with a staff that includes a female nurse, a female social worker and a male attendant, or their equivalent if possible.

Next to the skilful medical treatment of venereal diseases, we believe that the most important function of the clinic is the education of its community. It naturally becomes an educational center for the distribution of literature, and especially for sending out into the community patients who know what the modern treatment of venereal diseases means; what the dangers of these diseases are, and how they may be prevented. In addition to the educational work done by each clinic, the medical officer endeavors to acquaint the people of the state generally with the urgency of the venereal disease situation, and to secure their active interest in the work that the state is doing, and their endorsement and extension of it. To that end, he speaks before all manner of citizen organizations and secures as much proper newspaper publicity as in his judgment is needed.

Second only to education is the extremely important function of rehabilitation and replacement in society of those who for a time have been anti-social in their habits. While all of the staff should contribute to this, it is particularly the duty of the social service worker. In addition to following up all careless cases, she provides work for the patients who need employment where the moral surroundings will be of a more helpful sort, and she makes it as easy as possible for patients to come back into a normal life. It is hoped to provide generally for psychological examinations, so that patients who are feeble-minded, or otherwise mentally abnormal, may be placed in a suitable environment, whether that be attained by instruction of the family, or by securing the admission of the patient to an institution for restraint or supervision.

In some cases detention homes or detention farms must be provided for locally, in addition to institutions already supported by the state. In this, and other law enforcement work, the War Department Commission on Training Camp Activities furnishes special aid through its field representatives, when there are such in the same area as the clinic. If there are none, the medical officer in charge of state control of venereal diseases must secure proper enforcement of the laws against sexual offenses, and suitable detention quarters for infected male and female prisoners charged with such offenses. In any event, he is to provide for the treatment of these, and of all state and federal prisoners infected with venereal diseases. In a word, we want to see the varied problems of controlling the venereal diseases treated just as sensibly and fearlessly as the problems of controlling other communicable diseases.

The second great need—that of general education of the public—is being met in part through the work of the state boards of health and their clinics. In part, however, this matter demands a nation-wide campaign and this is being organized by the Division of Venereal Diseases of the Public Health Service. The objects of this educational campaign are to combat and correct ancient misunderstandings and misconceptions; to provide accurate information inoffensively presented; to arouse interest and active coöperation, and to make possible the teaching of sex hygiene.

It should be stated here that the teach-

ing of sex hygiene, as now understood, does not contemplate the delivery of a few formal lectures on the subject, disassociated from all other instruction, and to be listened to with bated breath and emotional discomfort. It means first the education of parents, so that they will know how to answer the questions of growing children and be able to inspire them with a reverent attitude towards sex. It includes also the study of biology in the schools, so that children will learn the essential facts regarding the development of life without having the subject made unduly prominent in their minds. In fact, they will learn what they need to know about sex without at all realizing that they are receiving sex instructions. Contrary to making the subject prominent, it will become merely one small part of the instruction of children in the care of their bodies and in a right attitude toward life.

In the present emergency, the necessary information regarding particularly the venereal diseases and methods of control is being brought to the attention of intelligent and influential persons, especially those through whom it can reach a still greater audience. Physicians, nurses, dentists, druggists, ministers, school teachers, women's clubs, industrial employers, labor unions, the press, and the various large conventions, are some of the organizations and groups that are being approached. Literature is being distributed, lectures given, and exhibits and moving pictures are being circulated.

The general results of the government's campaign against venereal diseases during the past year have been very interesting, and in some respects contrary to what many persons expected. It used to be said that nothing could be done to stem the tide of venereal diseases, because the problem was bound up with unchangeable human nature. The results, however, as seen in the medical departments of the army and navy, have shown that a great deal can be done with good effect. It used to be said that the health authorities would do nothing. Thirty-nine state boards of health are now actively at work on this problem and the other states are arranging to do their part. It used to be said that no support could be secured for such work. We have found that, beginning with President Wilson, who devoted part of his war emergency fund to the early anti-venereal disease work around army camps, the federal, state and local governments have given generous financial and moral support to the campaign. The army bill of April, 1917, providing for the selective draft, provided also for the control of liquor and prostitution near military posts. By the bill of July, 1918, Congress has now appropriated over four million dollars for this work in civilian communities throughout the country. The Red Cross has devoted a large amount of money to aiding the clinics in extra-cantonment zones. Several states and a good many counties and cities have appropriated large amounts for venereal disease control.

It was said, up to the first of the present year, that the people were not yet ready to support such a campaign as this. Quite to the contrary, it has everywhere been found that the people are intensely interested in this problem; that they are astounded at the facts shown by the draft as to the prevalence of venereal diseases in the civilian communities; that they are indignant that things have been allowed to progress so far before a radical remedy was devised and applied; and that they are now determined that the venereal diseases shall be checked and their great prevalence reduced as far as possible. The support of the people in this work is absolutely assured, and for this we are indebted and shall always be

grateful for the epoch-making work of the surgeon-generals of the army, navy and Public Health Service and their medical officers.

The very newness of the attempt to control venereal diseases makes it impossible to estimate what the future developments may be. We must be guided by our experience in the other fields of preventive medicine, and by our growing experience in this, as well as by the paths pointed out to us by other branches of science. We see our way plainly for a short distance ahead, and we are proceeding accordingly; but before we have accomplished the tasks thus clearly outlined, we may expect that newer developments will both make those tasks easier and add others to them. We cannot believe that society will ever permit these diseases again to go unchecked. Nor shall we ourselves be pessimistic regarding the difficulties of the problem or the outcome of our endeavor. We look confidently into the future for a great victory in this field and we believe that we shall dictate the terms of peace in the venereal disease enemy's country.

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Lectures on Public Health Nursing.—The School of Public Health Nursing of Simmons College, Boston, and the District Nursing Association of Boston have arranged a series of ten lectures at the college now in course of presentation. The speakers include Professor C.-E. A. Winslow, Dr. R. C. Cabot, Miss Anna H. Strong, Miss Mary Beard, and half a dozen other public health nurse leaders who present the subject in its various phases of origin and development, child welfare, tuberculosis, school and rural nursing, and the National Organization for Public Health Nursing.

Professor Winslow divided the development of the public health movement into three phases: sanitation of the environment, the period of the bacteriologist, and the present one in which the laws of physiology are applied to the daily life of the individual. In this the people have to be educated in the principles of correct living and must develop a sanitary conscience. The work is essentially educational and really devolves upon the public health nurse. She is the greatest force in the public health movement for teaching families the principle of personal hygiene. She must act as the community mother and be able to aid the needy in every way. Dr. Winslow believes that nurses' schools should be independent of the hospital and the same high educational ideals which characterize the medical schools should be carried forward in them.

Dr. Richard C. Cabot spoke on the social causes of sickness. Among them he enumerated the following: unemployment, inadequate knowledge of food and diet, lack of sufficient food, disturbing influence of noise, cold or faulty nervous condition, worry, great mental fatigue, sorrow, fear, discouragement, improper care of the bowels, and lack of proper exercise and rest. Each of these factors creates a vicious circle, and increases the susceptibility of the individual to disease. The public health nurse, according to Dr. Cabot, having the affection and confidence of the afflicted people, can be one of the strongest forces in a community to combat these social causes of disease.

In the lecture in this series which was delivered by Miss Mary Beard, R. N., lantern slides were used in illustrating the technique of family nursing. The speaker outlined the administration of district nursing work and enumerated the qualifications which a family nurse should possess, including knowledge of the city, its history, political system, peoples and traditions, and all agencies that are available for relief. There are exceedingly important agents in educating the people in the principles of hygienic living, in child welfare work, and in the general assistance of the family.

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Oklahoma Gets Three Sanatoria.—Owing to the efforts of the Oklahoma Tuberculosis Association, the Oklahoma Legislature recently appropriated enough funds to erect three tuberculosis sanatoria. Two of them will be for whites and one for the colored people. The legislative campaign, which the Oklahoma Tuberculosis Association conducted, was preceded by a state wide campaign of publicity and education, in order to impress the legislators that the sanatoria were really demanded by the people of the state. (*M. P. H.*)

THE CHILDREN'S YEAR CAMPAIGN.

ANNA E. RUDE, M. D.,
Federal Children's Bureau, Hygiene Division, Washington, D. C.

Read before Public Health Administration Section, American Public Health Association, at Chicago, Ill., December 11, 1918.

Miss Rude presents a ringing appeal for standardization and co-operation in child saving. She demonstrates that this work is fundamental in any well-conceived public health planning. She has a story of accomplishments which is backed by facts and figures.

THE National Children's Year Campaign represents the combined wartime program of the Woman's Committee of the National Council of Defense and the Federal Children's Bureau. Although the scope of the campaign, as originally outlined, embraces the general well-being of all children, special emphasis is placed upon the reduction of infant mortality and the welfare of children of preschool age.

The primary aim of the Children's Year program is the reduction of infant mortality in the United States, by trying to save 100,000 lives (one third of the annual preventable deaths) during the second year of the war, but the real and great purpose of the work is educational, the teaching of parents—mothers especially—in such wise that not only will the future claim fewer victims of preventable disease, but also will find fewer avoidable abnormalities and fewer remediable defects amongst the children of the nation.

Although various measures for the protection of mothers and children have been instituted and carried on in this country for some years past, the movement has not met with the serious recognition which our participation in the great world struggle necessitates, if Americans are to become and continue a vigorous people. Up to the present time it has evidently been difficult for the American people to think in large numbers, for, during some years past, the fact that the nation has lost annually 300,000 lives under five years of age has failed to arouse that sense of active responsibility which is essential if this unwarrantable loss of life is to be appreciably reduced. Our apathy is even more tellingly obvious when statistics definitely show us that at least one half this 300,000 dies from preventable disease. It has taken the experience of such countries as France and England and our own entrance into the war, to bring us face to face with national protective health problems.

CHILDREN'S YEAR.

April 6, 1918, the beginning of the second year of the war, opened the Children's Year campaign. The necessity for such a campaign was recognized by the President in his letter to the secretary of labor in which he said:

"Next to the duty of doing everything possible for the soldiers at the front, there could be, it seems to me, no more patriotic duty than that of protecting the children, who constitute one third of our population.

"The success of the efforts made in England in behalf of the children is evidenced by the fact that the infant death-rate in England for the second year of the war was the lowest in her

history. Attention is now being given to education and labor conditions for children by the legislatures of both France and England, showing that the conviction among the Allies is that the protection of childhood is essential to winning the war.

"I am very glad that the same processes are being set afoot in this country, and I heartily approve the plan of the Children's Bureau and the Woman's Committee of the Council of National Defense for making the second year of the war one of united activity on behalf of children, and in that sense a children's year.

"I trust that the year will not only see the goal reached of saving one hundred thousand lives of infants and young children, but that the work may so successfully develop as to set up certain irreducible minimum standards for the health, education and work of the American child."

In addition to expressing his approval President Wilson set aside $150,000 of his special fund to be used by the Children's Bureau for the carrying out of the Children's Year program.

During the year three distinct drives have been inaugurated. The present, or "Back-to-School" drive is to be undertaken by a school welfare committee, appointed through the Women's Committees of the Council of Defense, for each of the 281,000 schoolhouses in the country.

The object of this drive is to return to school the children who have been attracted by wartime wages, or through patriotic appeals, to enter and remain in industry. Now with the cessation of war, an added problem presents itself, with the natural demobilization in industries and the return of men from service, children who have been employed during the war emergency will now be out of employment. It is particularly desirable that these children should return to school. Scholarship funds to keep needy children in school after the legal age for working is reached, have been established in a number of cities. The purpose of these scholarships in elementary and high schools is to keep children out of industry and give them at least two years additional training beyond the compulsory school age in order that they may become more useful citizens. Although this drive has just been launched, twenty-two different states are actively participating and many other states are formulating plans.

During the midsummer vacation the second part of the campaign, or "Recreation Drive," was undertaken in many localities with a view to increasing physical vigor among children. Such games were promoted as would increase physical adeptness and skill, train the eye, and develop the ability to respond instantly. The value of providing *successful* recreation under competent leadership or supervision was one of the principal aims of this undertaking and is largely responsible for extensive permanent recreational work.

As a means of popular education appeal, possible in even the most remote regions, the opening of the Children's Year campaign began with a nation-wide weighing and measuring test, undertaken through the vast machinery of the 17,000 committees of the Women's Committee of Council of National Defense which embodied most of the women's organizations of the country. Only through such extensive organization was it possible to attain the greatest results with a minimum of effort.

When it is realized that more than 6,500,000 weighing and measuring cards have been sent out for children under six years, it will be understood that the appeal has met with an unprecedented and over-

whelming response. Concretely, it can reasonably be assumed that at least 13,000,000 parents, not to estimate interested relatives and friends, have had their attention definitely drawn to the general physical condition of the child, since the relation of weight to height and age can be interpreted as a rough index of the child's nutrition. The recorded results of this weighing and measuring test give the largest mass of material ever gathered on the measurements of young children.

While many elements of inaccuracy may undoubtedly be found in these cards, tabulations are to be made on the basis of 100,000 cards from records of children who were given a complete physical examination by a physician. These figures will enable comparisons to be made for the preschool age children between weights and heights and the weight-height ratios of children in different sections of the country as well as those living in large and small urban and rural communities, and for children of selected foreign parentage. Other valuable data will probably evolve also from these records, since the leading anthropologists consider the fund of material manifold in possibilities.

If the realization of the importance of the child's nutrition were the only result of this weighing and measuring campaign, the effort would have been well worth while. Fortunately, much more has been accomplished in localities where, through good organization, the campaign received the support of physicians, and complete physical examinations were made, drawing attention to defects and remedies for the same.

In a mid-western city of about 70,000 population, largely foreign, the chairman of the Children's Year committee writes that the immediate results of coöperation in Children's Year have been three child welfare nurses; a milk inspector; publication of milk reports with bacterial count, sediment, etc.; an agreement between dairymen and farmers by which all milk sold in the town will be produced within a radius of ten miles and properly taken care of until it reaches the city; a summer hospital for babies; a milk depot; an organization of ten volunteer nurses to look up babies in the congested foreign district and to instruct the mothers how to care for their children; the cleaning up of streets and alleys of the congested districts, and four infant welfare stations, to be established in order to carry on the work permanently. Surely such results as these are quite beyond one's most sanguine hopes.

It is impossible to estimate the number of medical examinations made, but reports from various states have been most gratifying. One of the large but less populous states reports 41,000 weighed and measured with 32,000 complete physical examinations by physicians in only one half its counties, with many counties still at work. The Children's Year program as outlined in this same state provided for three weighing and measuring drives during the year, with the aim not only of reaching a larger number of children, but also as a demonstration of the value of periodic physical examination. As the result of the tabulations of remediable defects from this one campaign, 17 permanent health centers have been established, several counties have each a public health nurse, and lately the state has established a Division of Child Hygiene under the state board of health.

In another more populous state, most competently organized, every county in the state but four (102 in all) has had child welfare chairmen, with 360,000 children weighed and measured. There are 1,111 committees, indicating active

groups interested in various phases of child welfare work.

The states have varied widely in their child welfare campaign undertakings, but there is not a state in the Union which has not had some part in the Children's Year weighing and measuring program.

The outline of the work in these three states serves to illustrate the varying scope of the work undertaken in different localities, after the initial weighing and measuring had been completed. From several Southern cities where the milk supply seemed a paramount factor in the reduction of infant mortality, came reports of the establishment of milk depots where milk was supplied and sold at cost after a canvass of the town had been made to determine how many children were not getting milk.

One state which was very late in beginning its campaign has just sent in the following report: "2,423 children in a town were weighed and measured. The births of 1,172 of these had not been registered, so a blank birth certificate will be attached to each child's record card and sent to the parent in an effort to complete the birth records." Many localities have already made birth registration tests as part of the Children's Year campaign. The necessity for complete birth registration has been emphasized through the recent draftees who have been confronted with demands for proof of age and citizenship. Is there any reason why, with concentrated effort on the part of already organized committees, that the birth registration area should not be enlarged to comprise all the 48 states in this Union, instead of only 20 states as at present? One important point in this connection is the desirability of unifying efforts, while working for complete registration, communities should at the same time plan for such legislation as will require and enforce *early* registration of all births whether attended by doctors or midwives. When we realize that one third of all deaths under one year of age occur during the first week of life, the necessity for the early reporting of all births is evident. One of the most potent means of combating this enormous loss is through the care and education given by the public health nurse; *early* reporting of births makes possible early attention to both mother and child by the public health nurse.

While as a whole the general infant mortality rate of the country has been lowered, census figures for the registration area show that the number of deaths under one month have not been reduced in the past eight years. Since the majority of these deaths are definitely due to natal or antenatal causes it is necessary to look to facilities for better education of mothers concerning motherhood before there can be any hope of reducing the infant mortality rate. Particularly is this true of rural districts which harbor three fifths of the child population of the country. Organization along public health lines will have to be effected if appreciable inroads are to be made in either morbidity or mortality.

Publicity by means of posters, dodgers, stickers, slides, and motion picture films of Children's Year has been widespread throughout the country largely depending for success upon the activity and ingenuity of local chairmen.

An interesting innovation in propaganda has developed in the portable welfare center and dental clinic.

Michigan has a "Children's Year Special," an interurban car, which was sent out on a six weeks' trip with a trained nurse in charge. Local committees and local physicians coöperate in each town. The expense of the car is donated by the railroad company. In Cleveland a thoroughly equipped motorized health

center visited outlying districts with a doctor and a nurse and examined children. Connecticut has also utilized a mobile health center and covered its three most rural counties, where Children's Year work could not have been undertaken without assistance from the outside.

A number of committees have sent in a report, that as the result of their Children's Year work, the town had had its first dental clinic, and one state has appointed a state dental examiner who is to travel through rural localities where regular dentists are not accessible, spending from two weeks to a month in a town, reaching children through district schools.

The results of the weighing and measuring test in revealing the extent of malnourishment among children has initiated many nutritional clinics. Some towns have systematically undertaken the feeding of all undernourished children. In some counties all schools have become interested in hot lunches for school children. Domestic science teachers have volunteered to meet the rural teachers once a month, and plan menus. One county reports that home demonstration agents have planned diets for preschool age children, and are working in close coöperation with school nurses. Coöperation through the far-reaching and effective machinery of the Agricultural Department, with its agent in every county, seems to hold new possibilities not limited entirely to the teaching of food values, but to include the simple laws of child hygiene as well. Most pressing is the need of dietetic instruction for mothers. Frequently the cause of malnutrition does not lie in the quantity of food provided, but rather in its low nutritive value. An intelligent understanding of a well-balanced dietary containing elements necessary to supply the needs of growing children must replace dense ignorance of comparative food values on the part of mothers, if the malnutrition which is a distinct menace and handicap to the normal physical and mental development of the child is ever to be controlled or prevented.

Municipalities have in some instances undertaken the perpetuity of work begun under its Children's Year committee, either by appropriations or employing superintendents or an increase in school nurses under boards of education.

Since the beginning of the Children's Year campaign six states have established divisions or bureaus of child hygiene under state departments of health, making a total of eleven states now having such divisions. A number of other states are working definitely toward the establishment of bureaus of child hygiene as the logical result of the Children's Year campaign, which is generously accredited as having served to crystallize sentiment on the need of state child conservation departments.

During the year, the necessity for health education among teachers has become more evident and courses on the care of mothers and children for use in colleges and normal schools are being prepared under the Federal Board of Vocational Education. Undoubtedly the revelation of our recent draft rejections, showing that at least one half the defects were such as might have been eliminated in childhood, has added impetus to the interest in the physical condition of our children; and the supplementary evidence of malnutrition and defects, as brought out by the weighing and measuring test, has helped focus public opinion upon physical fitness.

By far the greatest and most lasting benefits to be derived from the present consciousness of the physical condition of the country's children will be the establishment of permanent follow-up work, to provide the means by which

physical handicaps may be given proper attention. The establishment of children's health centers and the maintaining of county public health nurses are fundamental in contemplating permanent work. A children's health center could well be utilized, not only as a place where any baby or child could be given a physical examination, defects noted, and recommendations made, but as a teaching center for mothers on the care of children. A prenatal clinic would be the natural outgrowth of such a center. Home demonstration agents could well combine in using the health center for community work.

The public health nurse is to be considered one of the most simple, direct, and easily demonstrated means of health protection and while the demand for public health nurses far exceeds the supply at the present time, it is hoped that the reaction will be such as will result in supplying the demand of public health workers. Several states have already met the situation through the National Organization for Public Health Nursing and have undertaken steps to prepare nurses for these special demands by providing one or two state supervisors of nursing under state boards of health or in some communities through state anti-tuberculosis associations.

Existing societies caring for mothers during pregnancy, for the prevention of infant mortality, for the study of child welfare and child hygiene, or for the control of child labor, as well as state and municipal health control are all dealing with the health of the child. Since all preventive measures utilized for the reduction of maternal mortality and the high rate of mortality during childhood are concerned with *education* of the people and with *prevention* as the only solution, it is a significant fact that all the work of these various organizations looking to the general welfare of the young of the race is contributory in part to every other line of preventive work looking to the general health of childhood—every line of preventive work automatically reacts by contact. Maximum results in child conservation can only be hoped for through effective organization and coöperation of all public health activities.

A preëminently important development growing out of Children's Year activities is the realization of the necessity for standardization of all welfare methods. The establishment of standards of prenatal, obstetrical and postnatal care, infant care, examination and supervision through the preschool period, with health teachings and standardized periodic physical examinations throughout school life, establishes a chain which would eventually guarantee efficient comprehensive health guidance. Standardized welfare methods are in themselves educational and productive of a consciousness of the need for better community health, especially as it affects child life.

There is no possible way in which to estimate the far-reaching results of the Children's Year campaign. That it has been a popular educational movement resulting in an awakened responsibility for the welfare of children, quite justifies all effort, but the great possibilities resulting from this campaign will be negligible unless through standardization and coöperation we undertake with continued and renewed energy the work of saving potential citizens.

MENTAL HYGIENE AND DEPARTMENTS OF HEALTH.

C. M. Hincks, M. D.,
Secretary, Canadian National Committee for Mental Hygiene, Toronto, Ont.

Read at the Annual Meeting of the American Public Health Association, at Chicago, Ill., December 11, 1918.

Everybody seems to realize the importance of mental hygiene, yet no one seems to know just how to begin. Dr. Hincks strikes the keynote of the situation. He says that the experimental stage is passed. It needs the backing of public opinion and the sound financial footing of support from public health funds.

IT might have been more fitting had the American Public Health Association invited a psychiatrist from the United States to perform this task, because the mental hygiene movement was born in this country, and has for its exponents leaders of international repute. In this connection I am constrained to pay tribute for what Canada owes in social psychiatry to such of your men as Llewellys Barker, Adolf Meyer, Thomas W. Salmon, William Healey, Walter Fernald, Clifford Beers, and others. They have been a source of inspiration to us, and recent developments in mental hygiene in Canada have been due in no small measure to them.

Mental hygiene, although one of the latest entrants into the domain of organized public health, is nevertheless gradually taking a place of prominence alongside such worthy projects as child welfare, the prevention and control of tuberculosis, and the combating of venereal diseases. This development is coming about, not because public health officers have been looking for added responsibilities—they are overburdened as it is—but rather because the subject has been to a considerable degree forced upon them from without. The modern criminologist finds, for example, that the problems connected with delinquency cannot be solved without the assistance of the medical man trained in psychiatry. The up-to-date social worker, wrestling with prostitution, illegitimacy, pauperism, and unemployment, is now aware of the fact that mental abnormality is often at the very root of these conditions, and therefore appeals for medical guidance. The best educationalists of the country discover that feeble-mindedness in primary schools is responsible for much educational inefficiency and the spread of moral contagion, and they therefore want a helping hand from the mental specialist. Several years ago it was thought in certain quarters that the criminologist, the social worker, and the educationalist might receive the help they required from psychologists, but experience has taught that because neuroses and psychoses often play a part in the problems presented, that the most efficient helpers are medical men trained in psychiatry, neurology, and psychology. Now, where could such assistance be secured? It was evident an appeal might be made to physicians attached to hospitals for the insane, and to specialists conducting private practice in neurology and psychiatry. There seemed, however, at least one other possible fruitful source. It was argued that the problems presented were none other than questions of public health, and so it seemed reasonable to request departments of public health for the services of state or municipally paid psychiatrists. Up to

the present requests of this nature have been made from time to time and certain departments have responded loyally.

Those of us interested in the mental hygiene movement are glad that the development outlined above is taking place. We realize that departments of public health are rapidly becoming well organized, and that mental hygiene will profit greatly by being incorporated as an integral part of their running machinery. The subject is too broad and too important to be entrusted solely to isolated enthusiasts, to organizations supported by voluntary contribution, to hospitals for the insane and feeble-minded, and to public school systems. I say this in spite of some knowledge and great appreciation for the work that has been done in the past by such individuals and organizations.

It has been hinted that the program of mental hygiene is wide in scope. Let us for a moment consider the field that it attempts to cover. Dr. Llewellys F. Barker has eloquently defined a campaign for mental hygiene as: "a continuous effort directed toward conserving and improving the minds of people: in other words, a systematic attempt to secure human brains so naturally endowed and so nurtured that people will think better, feel better, and act better, than they do now." It will thus be seen that the mental hygienist is interested in the prevention of mental and nervous disorders and in securing adequate care and treatment for individuals affected. As far as treatment and care of mental abnormals are concerned, it is necessary in each locality to determine the number of feeble-minded, epileptic, insane and psychopathic among the population, to enquire into their individual needs, and finally to provide facilities for scientific care and treatment. In connection with prevention the public must be informed concerning certain salient facts relating to mental disorders and taught through newspaper and magazine articles, leaflets, and public addresses, what is practical in the way of preventive measures. Prevention and treatment are intimately bound together, because when the feeble-minded, for example, are segregated in institutions and farm colonies, they are prevented from reproducing their kind.

Indeed, as far as feeble-mindedness is concerned, this precaution, together with a careful selection of immigrants are among the few ways of preventing an increase to our mentally deficient population.

Many phases of the above program of mental hygiene can be admirably carried into effect by a well-organized department of public health. Such an organization, if it be municipal in a city say of less than half a million, needs merely to employ a social psychiatrist or two, and a staff of social service nurses trained in psychiatric methods. With the coöperation of the chief medical officer of health the psychiatric staff can be made to dovetail in with the whole program of public health. This system will work well, both for those engaged in mental hygiene and for the rest of the staff employed in other departments. The general staff assists in discovering clinical material for the psychiatrists and the latter help solve some of the acute problems of the former where mental abnormality is a factor. It is probably unnecessary to go into detail concerning further advantages of such coöperation, because it is evident that from the standpoint of filing case records, from the standpoint of publicity, and the placing of mental hygiene in its proper relation to other realms of public health, from the standpoint of finance, and for many other such reasons, much good will ensue.

With regard to the whole question of

mental hygiene I feel that we should consider that the experimental stage has been passed. It has been proven time and time again all over the continent that whenever a mental hygiene campaign has been conducted by experts backed by public-spirited laymen that good has always resulted. The various mental clinics connected with schools, asylums, courts and jails, have, for example, more than justified their existence. Up to date, however, we, as a people—this refers to Canada at least—have been for the most part content to leave the whole matter in a more or less experimental stage. At least we have not put the work on a sound financial footing supported as it should be out of the public funds. The result has been a spasmodic effort here and there—a few brilliant successes, it is true—but the great majority of our people have reaped little benefit. As I see it salvation lies in a great measure with organized departments of health.

A number may not agree with my view and for apparently good reasons. Opponents, or rather the unconvinced, may argue that the real handicap of the mental hygiene movement lies in the fact that there does not exist in this country or in any other country, sufficient accommodation for the feeble-minded or insane in well-equipped and adequately staffed institutions. In other words, the problem of mental abnormality would be half solved, it is argued, if we possessed suitable hospital and training school accommodation for all cases. With this point in mind many feel that our energies should primarily be used to urge the erection of more institutions. The argument makes a great appeal to me, and for that very reason I especially urge departments of public health to take up psychiatric work, not because these departments might build institutions, for that is not their function, but because they can probably best collect large bodies of data showing the actual need of added accommodation. It has been my opinion that the failure of governments to provide needed institutions has been due in great measure to the fact that they did not know the true state of affairs with regard to mental abnormality, and the public was not fully aware of the real situation. No organization is better fitted to collect the facts and to present them to public and governments than a department of public health.

Before concluding this address I would like again to pay tribute to the American mental hygienists who have been a source of inspiration to us in Canada, and not only to mental hygienists but to leaders in the United States in all branches of medicine including public health. In fact, we in Canada just now are particularly appreciative of the stimulation we have received from the United States in science, including of course the science of war. With regard to the latter it is hard for me to keep from dilating on the subject, but I will refrain. And Canadians are touched when you show appreciation of our leaders in science, and our men of affairs. Medical men in Canada are proud of the fact that a Canadian was the president for the last year of the American Public Health Association. They are doubly proud because they consider him a most worthy representative of the Canadian medical profession, and I might say one who has incorporated mental hygiene in his splendid department of public health.

A MEDIAN ENDEMIC INDEX.

JOHN S. HITCHCOCK, M. D., and BERNARD W. CAREY, M. D.,
Massachusetts Department of Health, Boston, Mass.

The endemic index is a time saver for busy health officials. It permits the delegating of enormous routine work to a clerical staff. By the devices a serious condition is automatically brought to the attention of the staff, who notify the chief.

IN epidemiological work many devices have been proposed and used to record and illustrate the reported daily incidence of disease, either in a state as a whole or in the various communities, all having the common objective: to show clearly the relationship between the present incidence with that of the past.

That some device, simple in operation and interpretation, might be originated has been devoutly wished for by many public health workers. The fact that there are many schemes, graphs or devices, some simple and others complex in design, only proves that none is completely satisfactory.

The Department of Health of Massachusetts for the past few years has used, in conjunction with the usual "spot" maps, an "endemic" index card which was put into operation by Dr. W. H. Brown, then epidemiologist for the Department.

This endemic index signified the average number of reported cases for five years, exclusive of epidemics, for the various cities and towns of the State. It is noted that in computing this average epidemics were discarded and it seems as if this procedure is a vulnerable point which makes the endemic index at times of doubtful value.

The difficulty in the use of this endemic index lies in deciding at just what point an undue prevalence or outbreak becomes epidemic. It would be possible that an outbreak of measles, for example, occurring in a small town would be considered as an epidemic and discarded from the records while the same number of cases occurring in an institution of a large city would be reported to the local board and the total for the period not reach an outbreak proportion for that particular city

Again, it is possible to have a sufficient number of multiple cases occur in familie to raise the total number of cases to epidemic proportion, and to be thus discarded in our computation when actually the community incidence has not been considered as having approached the "outbreak" point because few families with many inmates were affected rather than many families with few inmates. This means only this: that to compute endemic indexes, all must agree on just what will constitute an epidemic in a given place at a given time viewed from all angles.

In this office, countless discussions have arisen over this point and few have concluded satisfactorily. It appeared that if a "median" index might be arrived at by taking a sufficient number of yearly reports, an approximation would be reached which would prove fairly accurate for past performances and give us a reasonable point to mark an excess of reported disease for any one month. This "median" is the record of an actual occurrence; it is arrived at by taking into account both the abnormally high and abnormally low incidence figures and in the process of arranging the data in

arithmetical sequence and picking the middle number the personal judgment of the compiler as to what does or does not constitute an epidemic cannot be exercised.

Therefore, to put this to a test, all cases of diphtheria, scarlet fever, typhoid, measles and pulmonary tuberculosis were arranged in monthly totals for a period of nine years (1910–1918) and then by arranging them in arithmetical sequence, selecting the median figure, a median was obtained for each month which is termed our median endemic index.

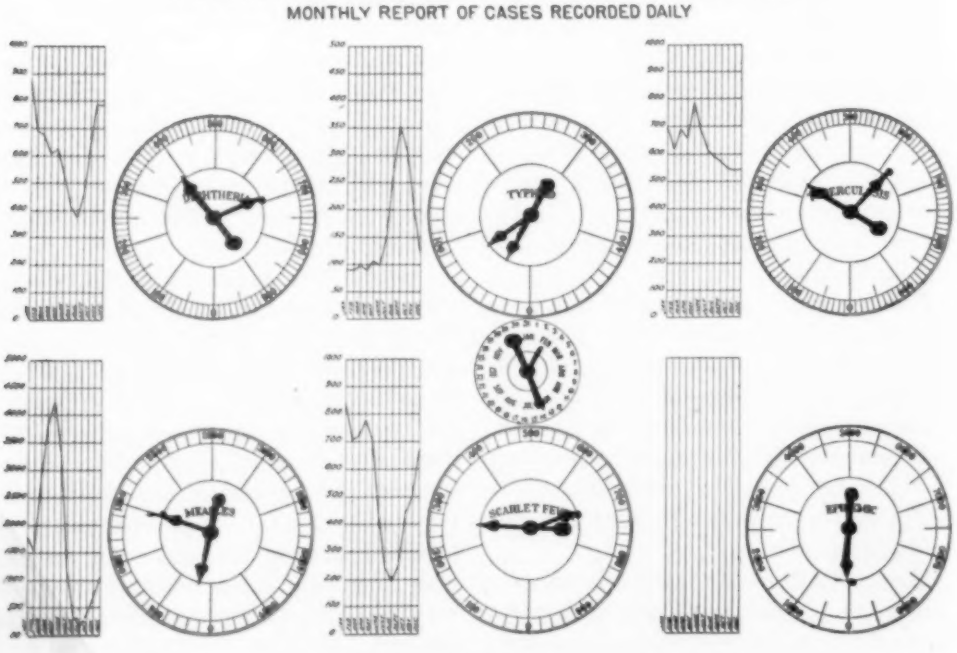
To make this procedure more evident the number of reported cases for January of each year of this series of nine years was as follows:

	Diphtheria	Scarlet Fever	Measles	Typhoid Fever	Pul. Tuberculosis
1910	912	943	1,772	132	754
1911	992	631	957	90	522
1912	519	583	1,468	80	486
1913	555	833	2,801	146	565
1914	846	1,584	880	194	759
1915	921	953	1,118	136	680
1916	840	948	1,866	81	667
1917	869	673	1,886	68	719
1918	950	609	2,950	53	697

By arranging these cases in arithmetical sequence, and choosing that number that appears in the middle as our index, we find the median indices for January for the various diseases to be:

Diphtheria	869
Scarlet Fever	833
Measles	1,772
Typhoid Fever	90
Pulmonary Tuberculosis	680

CHART I.


THE COMMONWEALTH OF MASSACHUSETTS
STATE DEPARTMENT OF HEALTH
MONTHLY REPORT OF CASES RECORDED DAILY
ENDEMIC INDEX FOR MONTHS SHOWN ON CHARTS. (BASED ON RECORDS 1910 TO 1918.)
DAILY TOTALS FOR CURRENT MONTH ON DIALS
LONG HAND-CASES SHORT HAND-ENDEMIC INDEX.

It is remarkable how closely Dr. Brown's endemic index, with an estimated figure used in place of the actual disease report, approximates this Median Index.

A chart was then prepared containing a graph of the monthly median for each disease, and beside it was placed a dial, marked off in suitable spacing for recording the daily increase. This is recorded by the two "clock" hands, the hour hand pointing to the median index for the current month, and the minute hand progressing as the daily reports accumulate.

The median index chart, used in conjunction with a "spot" map and daily index cards, seems to be an effective simple device whereby the daily accumulation of reported incidence may be watched, and which will show at a glance any sudden, or unusual increase.

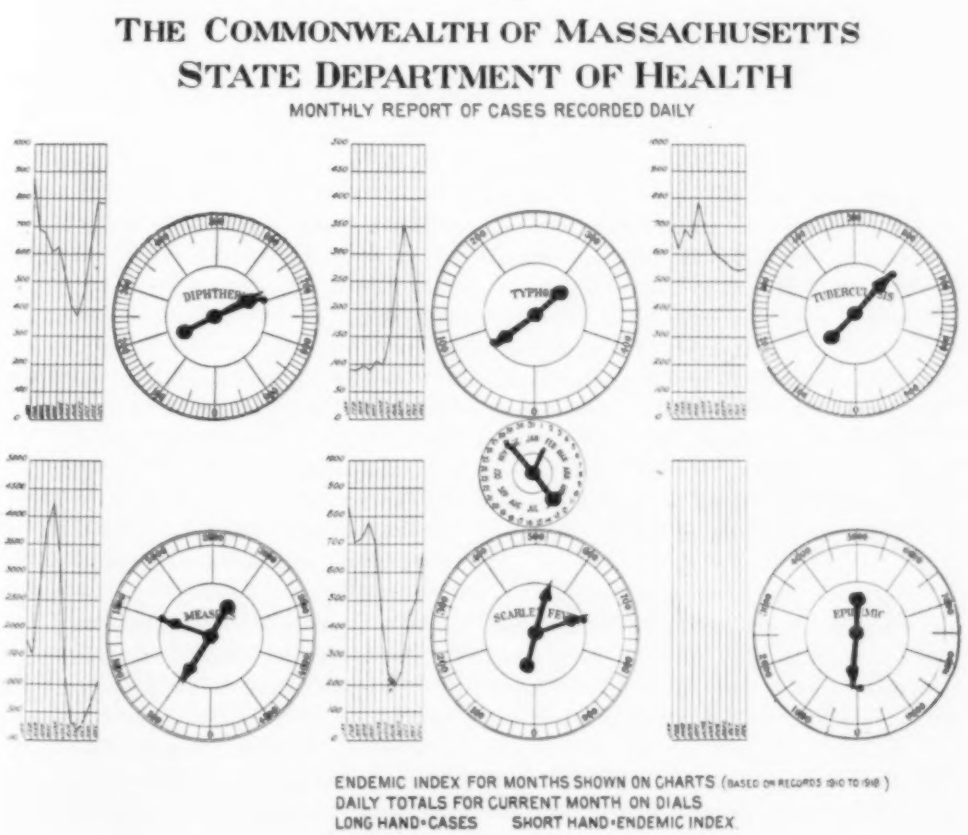
Chart I shows that on the 14th day of February diphtheria accumulated a total of 394 reported cases, typhoid fever 27, pulmonary tuberculosis 334, measles 216 and scarlet fever 272.

Chart II shows the report on the 28th day or the end of the month with tuberculosis the only disease which exceeded its Median Index.

The dial marked "epidemic" is reserved to register any other unduly prevalent disease.

The design is furnished by Edward H. Williams of the Massachusetts Department of Health.

CHART II.



GROUP MEDICINE.

MICHAEL M. DAVIS, JR., PH. D.,
Director of the Boston Dispensary.

Read before the Sociological Section, American Public Health Association, at Chicago, Ill., December 9, 1918.

Dr. Davis emphasizes the wastefulness of present methods of family doctoring. He says that the existing system should be replaced by a co-ordinated one, which for the poor is exemplified in hospitals and dispensaries. He pleads for efficiency in the treatment of the man of moderate income as well as for the penniless.

THERE was a time when every shoe that men wore was made by a cobbler, but now few men make shoes. Many men make each a part of a shoe, or fit parts together into the finished product.

Shoemaking and doctoring are not seriously to be compared. Yet the development of specialization, in industry and in medicine, has a certain not uninteresting parallel. Specialization in industry has progressed to an extreme point. Along with it has gone another factor which has rendered a high degree of specialization both possible and efficient. This factor is *organization*. In medicine, within a generation, specialization has developed enormously. We may hardly claim to have fifty-seven varieties of specialists, but we have a number that is bewildering, when there is no force to bring them together as a working whole. The factor of organization in medicine is as yet relatively undeveloped. It is the purpose of this paper to suggest some indications of its present and its probable development.

In private practice among the well-to-do, a family will call during twelve months upon a pediatrician for the baby, an orthopedist for father's feet, a neurologist for mother's nerves, a laryngologist to take out Tommy's tonsils, a surgeon for the debutante's appendix, an oculist and a dentist for nearly every member of the family. Sometimes such a family has a family physician to whom they turn in all ordinary ailments, but more often they have not and go from one specialist to another as need appears to demand. The expense of this system of specialization without organization may not be a defect to those who can afford it. But the system is far from 100 per cent of medical efficiency. This is particularly apparent in those cases which are difficult to diagnose, or which present practical problems of treatment. For without a central medical point of view, to harmonize the opinions and plans of several specialists, the patient is likely to take the advice that is the least trouble to himself or that fits in best with his own preconceptions or prejudices. Such a system of unorganized specialist practice is not a solution of the problem of medical care, even among the well-to-do, and it is far too costly to extend to the community as a whole.

In most large cities, the same physicians who, as specialists, spend most of their mornings or afternoons in well-paid private practice among the rich, spend much of their afternoons or mornings in unpaid practice in hospitals or dispensaries for the poor. In the hospital or dispensary we have specialization brought to a high degree, and also have another factor introduced, namely organization. An elaborate equipment of instruments, microscopes, laboratories, X-ray facilities,

sterilizing and mechanical apparatus, is brought together in a single building instead of being scattered through many separate offices, and is placed under one general administrative control. The advance of medical and surgical technique has caused an enormous development of material equipment. Once upon a time the physician had to depend chiefly on his eye, ear and hand. Now, the investment required for a complete equipment for all branches of medical and surgical work is beyond the reach of any individual doctor; and complete equipment even for any one single branch is beyond the reach of most. The hospital or the dispensary provides and administers equipment for joint cooperative use.

Further than this, in the hospital or the dispensary, the relations between the different specialists are organized by common consent under a central authority, represented by the managing body of the institution itself. Right procedures of inter-relationship between the different departments, headed by the various specialists, determine the degree of effective coöperative work. These procedures are fixed by the central organization and supervised by it.

Thus there is not only organization of equipment but also organization of skill. This means *Group Medicine*. Group medicine represents a system for utilizing the maximum resources of modern medicine in all its various branches for diagnosis and treatment, so as to promote the most effective and economical utilization of technical equipment, and the most efficient coördination of professional skill.

Group medicine is new, because specialization in medicine is comparatively new. The hospital and dispensary were formerly places in which physicians, more or less specialized, worked each independent of one another, merely coming to the same building. The modern hospital in its most developed forms represents group medicine, but there are hospitals which today are merely medical boarding houses, providing an operating room, a laboratory and other equipment which a number of different physicians or surgeons may utilize with practically as much independence of one another, as if they worked in their own offices or in the patient's home. The development of medical organization *plus* specialization is coming to mean a new and much more efficient organization of hospitals and dispensaries. The hospital represents the practice of group medicine for cases requiring care in bed, while the dispensary (or the outpatient department of the hospital), represents group medicine for cases of the type that go to a doctor's office,—ambulatory cases, as they may be technically called. The great teaching hospitals and dispensaries of the country have led the way in perfecting equipment and organization so as to reach the highest efficiency, and it is in these institutions that group medicine can best be studied as a public or semi-public institution.

There are also institutions which have been founded particularly for the practice of group medicine. Most notable is the Mayo Clinic, of Rochester, Minnesota, an institution which stands on the principle that group medicine is more efficient than individualistic or specialized practice without organization. The Mayo Clinic receives patients, who, as a visitor was once told, may pay "anything from nothing up to $10,000," and gives the same treatment to all. Group medicine in Battle Creek, Michigan, in Fall River, Massachusetts, and a number of other places in the country, is represented today by organizations specially formed for the purpose. These organizations are on a business basis like well-conducted private academies.

A movement or an organization may be judged not only by its fruits but by its

imitators. The idea of group medicine is simply the application in the field of medical service, of ideas which have long ago demonstrated their value and necessity in other branches of human activity, notably the business world. Keen business men are apparently beginning to "catch on" to the possibilities of applying to medical practice so-called business principles of organization. To save part of a physician's time from the business end, to be devoted instead to professional work, would be a source of advantage. The practical outcome of any such plan would depend entirely on whether high professional standards are maintained in such an enterprise, or whether the business managers and others exploit the situation. The development of group medicine has its dangers like anything else, as the preceding account will suggest. We may well hope that in the main the growing organizations for medical practice will be founded on a basis of public service rather than for profit.

Certainly the time has come when, on the one hand, the coming together of physicians for organized practice should be permitted both by law and by public opinion. On the other hand, no such organization, whether called a hospital, a mutual medical organization, or any other group, should be permitted to carry on the diagnosis and treatment of disease except under some form of public supervision. The responsibility of the individual physician to his patient does not cover the whole need of the situation. The practice of medicine has gone beyond the power of any one man to master fully. Specialization carries with it the necessity of organization. Organization into groups carries with it the necessity for public supervision in some form.

The further development of group medicine is needed both by the medical profession and by the public. The general practitioner, even in the large city, who is struggling to make a living in middle-class practice, is cut off very often from the best facilities of modern medicine. His patients have not access to these facilities because they cannot pay the high fees required by consultants and specialists in private offices, or by private laboratories and X-ray experts. Only through organization, which will pool equipment and coördinate the various branches of special skill, can the facilities of modern medicine be opened up to all the patients who need them and all the doctors who know how to use them. Nothing less should be accepted by a civilized community as an ideal towards which to strive.

Consider the practice of the individual physician on the financial side merely. I can find no more clearly put statement than the terms of a circular issued by some business men who were proposing to organize a "group medical association," through which the business aspects of the practice of a number of physicians would be jointly handled, in a certain New England community.

To clearly understand the financial side of a doctor's practice, it is necessary to discuss it as a business, although it is very properly regarded as a profession. Hence we ask the momentary forbearance of the medical gentlemen, who are naturally and deservedly sensitive about the use of the word business in connection with their chosen work.

The physician has three things to sell: (1) His skill and knowledge for which he has sacrificed much time, study and money and to which, to be continuously proficient, he must constantly devote much more time as a student. (2) His time. (3) His physical endurance. The cost of conducting his practice (his office, his automobile, etc.) are here, as with the merchant, the so-called "overhead expense." His gross profit then, or income, is the amount represented by the entire number of calls he makes during the year, less his "costs" or "overhead."

No physician would be recognized by his fellows who refused to accept a sick call without cash in advance or who delayed his visit to inquire into the credit qualifications of his prospective patient.

A mercantile house has its "Credit Man." Statistics show that 60 per cent of the public, knowing their record will not pass his grilling investigation, never apply for credit, while more than one-half of the remaining 40 per cent who do apply, have their trade rejected on other than a cash basis.

But the doctor may use none of these safeguards. He must attend when called, not only the one-half which the commercial credit man rejects, but even the 60 per cent who would not have the temerity to apply elsewhere for credit.

Is it any wonder then, that practically all physicians collect less than 50 per cent, while in some cases the losses have been known to total 75 per cent to 80 per cent? Consider the application of this to the fee he must and does charge.

If business men, looking at the practice of medicine as a "business proposition," have seen the advantage of organization, may not the time come when medical men who see the practice of medicine as a high and noble profession will grasp the opportunity to join with one another in developing efficient centres of group medicine. They would undertake this not primarily for financial reasons, but for the advancement of the standard of their medical practice and the resulting benefit to the community. A group medicine plan is applicable not only to a large city but to the small communities also. In cities of small size specialists may visit on occasion, even if they cannot dwell there permanently. Their visits should be arranged for, by the local medical group, at regular intervals. Thus, a body of specialists would take part in a coöperative medical group often enough to meet the needs of the locality. Thus all physicians who were members of the group would get the benefit of coöperative work and the advantages of equipment which no one individual physician could provide for himself. The public of the locality would be similarly benefited.

Does group medicine mean breaking the personal relationships between the individual and the physician? It need not do so. As a matter of fact, the personal relationship of the average practitioner to his patients, particularly in cities, is decidedly discontinuous; while the personal relationship of the specialist to his patient is generally not only discontinuous but fragmentary. The patient is seen by sections. Group medicine can be so organized as to cause unification of personal interest in the patient, and to preserve personal relationships, as well as promote medical efficiency.

The development of group medicine in the immediate future may perhaps be stimulated if business men and social promoters recognize that it is a coming, useful and profitable form of organization to meet community needs for good medical care. But if the development of group medicine is to take place in the best way, it must move forward on the basis of public service rather than of individual interest. The general public must be educated to see the advantages of group medicine and to support those hospitals, dispensaries, health departments, and other organizations, which are endeavoring to further it. Both private agencies and public funds should advance this movement. The provision by state funds, or by a combination of state and local funds, of diagnostic equipment to be used by local physicians, with visiting specialists as above suggested, is part of a necessary program for the smaller cities and towns. A health insurance system might be another way in which funds would be available through local or state-wide insurance groups, for providing the equipment and the organizing skill, which could be used by groups of physicians in small as well as large communities.

The experience of military service will have rendered thousands of physicians familiar with methods of organization and accustomed them not only to the treatment of individual patients, but to coördination of work with other doctors.

The return of these physicians to private life may well be occasion for stimulating the organization of medicine and for helping the institutions in which group medicine is practiced. Members of the medical profession, men who are concerned with public health work, or with the administration of hospitals and dispensaries, should not permit the leadership in developing medical organization to pass out of their hands. Group medicine is a necessary progressive step in the practice of medicine for the public service. Development of high standards of group practice will be demanded by the public. They must be met by the profession. The public and the profession must coöperate in their advancement. Was there ever a time more ripe for forward movement than the present?

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THE HEALTH OFFICER AND THE ENFORCEMENT OF THE LAW.*

Charles V. Craster, M. D., D. P. H.,
Newark, N. J.

"Health officers need the wisdom of a Solomon, the patience of a Job, and the shrewdness of a Sherlock Holmes," said one of them out of his own experience. Dr. Craster here supports this idea in part and presents some of the intricacies of health administration.

THE first health officer was probably I-Em-Hotep, who lived in Egypt 5,000 years ago. Distinguished as a physician, a priest, an alchemist, an engineer and minister to King Pharaoh, he wrote his laws upon health in the Temple of Ra at Memphis. This ancient code later became the foundation of the laws of health of the Greeks and the Israelites.

One is tempted to think that even in those far off days there must have been some difficulty in enforcing laws relating to health. Particularly drastic was the law mentioned by Dr. Grant Bey as having existed in the Hyksos period of Egypt which provided that if any physician adopted a method of treatment not authorized by the sacred books and during which the patient died then the life of the physician should be forfeited.

Let us hope there were even then enterprising and successful lawyers who interceded for the lives of adventurous practitioners of the healing art.

Although the state health laws and the ordinances of municipal sanitary codes have reflected to a fair degree the existing ideas of the public upon health matters as expressed in the legislation, a casual acquaintance will reveal their many defects.

So rapid have been the changes in our attitude upon public health questions of late years that health laws quickly become obsolete, the reason for their passing away being that their enforcement is often useless and may be even mischievous. In most states there is an abundance of such old time health legislation which forms a kind of legal wood pile from which the health officer has to select his legal weapon. The state health laws are badly in need of revision with a free application of the axe to remove useless and cumbersome legislative débris.

The selection of laws to be enforced to protect the public health must, therefore,

*The presidential address before the Health Officers' Association of New Jersey, January 25, 1919.

depend very much upon the judgment of the health officer, making this part of health administration a road surrounded with entanglements for the unwary. In no other branch of public health administration is there so much need for wisdom and tact. It may be said in a general way that the majority of health laws cannot be enforced entirely in accordance with the letter of the law. It is evident that there is an inner meaning in health laws as in other laws, "the spirit of the act" which must guide us in intelligently reading the whole instrument.

How much or in what way a law shall be enforced must depend upon the special conditions existing, but there is a minimum of enforcement below which any law ceases to be of value in effective health administration.

Sanitary Law Nuisances.

There is no more valuable heritage in public health than in the number of excellent sanitary laws originally framed to better the conditions in dwelling houses and public buildings.

The war originally waged against collections of dirt and waste material of every kind, however, very frequently outran reasonable safeguards. The public was suspicious of collections of even innocuous material, liquid or solid, because of the almost universal existence around dwellings of privy vaults and wells, the one to be suspected, the other protected.

The health official of the day having thus become the professional "smeller out" of undesirable odors resulted in much of our health legislation being directed against odors and fumes of all kinds, irrespective of any harmlessness they might be shown to possess.

Living conditions in the homes of city or country dwellers have, however, so changed of recent years that no health inspector would regard refuse or ashes as anything else but harmless, provided that these collections are protected from animal or other contamination. The enforcement of the law against sanitary nuisances is, therefore, guided by the possible menace to health existing. Where the condition is potentially harmful the public should be given the benefit of the doubt and the law enforced to abate the nuisance.

In this respect the uncemented privy vault, the unscreened toilet and the well or public water supply insufficiently protected from surface pollution must always remain a potential sanitary hazard to health. There will be at all times a grave responsibility upon the shoulders of health boards and health officers who neglect to enforce the law to abate such conditions wherever they are found to exist within their jurisdiction.

Healthy Dwellings.

There is no part of sanitary law which has done more to improve the general living conditions in communities than the restrictions governing the structural condition of dwelling houses. The proper repair of roofs, leaders and gutters, the general whole, and the weather proof state of walls, windows and doors as well as in the requirement of dry cellars, good floors and adequate water, toilet and plumbing facilities. There can be no argument against the full enforcement of the laws to bring about healthy conditions in houses.

Much fanciful and decorative repairs are not, however, needed in dwelling houses. It is a safe guiding plan to require only that which appears necessary to ensure individual health and protection against disease or exposure to inclemencies of weather conditions.

Antiquated Plumbing.

In towns where a municipal water supply and sewage system has been in existence for some time much antiquated plumbing equipment may be found by a house to house search for sanitary code violations. It should, however, be a cardinal rule to look upon such violations as being in a very distinct class by themselves and to test their value not so much by the antiquity of the installation as by the question "are they doing the work?" If the answer is in the affirmative then there may be little or no hazard to health existing and I believe no sanitary interference is indicated.

In one instance which came to my notice of a sanitary survey made of a certain city ward wherein so many violations of the plumbing code were found that the local plumbers were overwhelmed with the work required to be done. It finally became necessary to leave existing installations as they were provided there was no hazard to health in their continuing to function in the old lines. This does not mean, however, that flagrant plumbing defects should be overlooked. An old leaky and defective plumbing outfit in any house should be ripped out or the house condemned. All new work in houses, however, should be required to fulfill the strict letter of the law. No scamped work should be allowed and all plumbing materials put into even the cheapest houses should be of the best quality. Good plumbing takes high rank as a necessity in ensuring safeguards against disease in the homes.

It is for this reason that I believe the plumbing inspectors should remain under the jurisdiction of the board of health. In this regard I would go still further and express an increasing conviction that the building departments of cities should be under the authority of the health board. Certain it is that there is no department so concerned as the board of health in the proper construction of houses not alone for reasons of protection against accident or fire but from the ever existing hazard to health from ill built and badly laid out dwellings and public buildings.

The Control of Epidemics.

The paramount duty of boards of health to control disease epidemics remains today as formerly their most important function. Many others have been added including the newly recognized responsibility for the preservation of health. To control epidemics, the health officer must know where disease exists. To this end prompt reporting by physicians of epidemic diseases to the board of health is a prime necessity. No matter how efficient the methods of isolation and quarantine may be such measures depend upon prompt reports of contagious disease for any value they may possess in controlling epidemic diseases.

Reports of Deaths and Births.

Whether the health officer is the local registrar or not he should require all death certificates to be promptly sent in by physicians within the legal time limit. Sometimes a death from disease is the first signal of the presence of an epidemic in the community. Furthermore such deaths serve as good checks upon unreported cases. Deaths from epidemic diseases should bear a normal ratio to the reported cases. For example, for each death from typhoid fever there should be approximately ten reported active cases of the disease.

In a similar way the energies of the health officer should be directed to obtaining the reporting of all births within his jurisdiction. A good follow up on unreported births is the routine investigation of all deaths under twelve months of age. Unless physicians and midwives are

educated to report births promptly child hygiene work loses much of its usefulness in the community for it frequently happens that the unreported births are just those in which supervision and education are most needed.

Food Inspection.

Although we are not very certain of the part played by food in the spread of certain diseases the path of infection by the mouth being so direct will always remain suspect. It is for this reason that we all appreciate the dangers attendant upon the insanitary production of foodstuffs. This health hazard has now been universally recognized and has resulted in the passing of many fine laws to protect food in nearly every stage of its production. So comprehensive are these laws in New Jersey that their strict enforcement might disrupt the placidity of our friends, the city food producers. Old machinery and apparatus as well as old premises can usually be made sanitary, although I have my doubts of the worst of our cellar bakeries. I remember in one such bakery, dark and damp, the house drain of the premises was found leaking down upon the bags of flour in the storeroom. The moisture of the leaking sewage was regarded as the normal dampness of the cellar.

Food and drug laws governing impure or misbranded foods or drink should be enforced to the utmost. There is no more flagrant extortion of the public than in the sale of bad or adulterated foods. The citizen cannot protect himself in this respect and must rely upon the health officer to assure him of the wholesomeness of his purchase. The value of a rigid food inspection goes further than the immediate control of crime, inasmuch as the very future of our race is dependent upon a supply of food free from sophistication and denaturing processes.

In food condemnation, however, much good food may be salvaged. Every effort should be made by the health officer to allow commercial firms to sort good food from bad if such is a possible procedure. Recently a load of 70,000 cans of condensed milk was found to contain numbers of swelled cans. After sorting out the good cans and refusing the request of the manufacturer to have the swollen cans returned to the factory without denaturing each can the rest of the shipment was destroyed.

The high price of meat brought about an unusual sophistication. A certain complainant brought in some lamb chops. "Smell these," he said to the inspector. "What of it," said the latter. "What of it, why it's goat's meat," said the complainant, "and what is more the butcher who sold me these chops stole the goat from my back yard, slaughtered it and sold me my own goat as lamb chops."

With regard to bob veal there has been some change of opinion. The impression of its former harmfulness, more esthetic than real, has never been proved. The opinion of a veterinarian can usually decide as to the food value of bob veal carcasses. In few cases it is so immature as to be quite useless as food.

Milk Supervision.

Milk is so important a food product for children that its effective supervision in all localities is of supreme importance. The state standards of milk quality in New Jersey of 3 per cent butter fat and 11.5 per cent total solids is so moderate that it should be regarded as a minimum which a good dealer should endeavor always to excel by a wide margin.

A due respect for the law by the frequent taking of milk samples and the infliction of fines will do much to help the health officer to control his milk supply. Although few states have any legal score card for dairy farms nor any bacterial standard for milk grades, wherever possi-

ble such standards should be adopted by boards of health. There has been some recent tendency to decry the value of scoring dairies, but there can be no doubt that the general effect has been revolutionary. There may be too much stress laid upon barns and equipment and too little upon method, a situation which may be met by attention to altering the card to meet the local conditions. Inspection of score cards or bacterial counts by health boards will go a long way towards ensuring clean milk through insistence upon clean methods of handling cans and utensils and the rapid cooling of the milk after production. Their efforts along these lines will be productive of continuous good results especially if they can thereby ensure a better price for the milk from clean farmers.

The Control of Tuberculosis.

Finally there is our ever present problem of tuberculosis. How shall we enforce the law on tuberculosis where sufficient sanatorium accommodation is not provided by Boards of Freeholders? Of what avail is good reporting of tuberculosis, of efficient field work, unless proper provision is possible for the open cases exposing others in his own family to infection. During 1916 there were 3,844 deaths from tuberculosis in the state of New Jersey. Does the state come anywhere near providing the suggested minimum requirement of the National Society of one sanatorium bed for each annual death? The great difficulty with the control of tuberculosis is the question of dependence and the ever present poverty of the family. In fact the whole course of the disease is a graduation from one state of poverty to another till complete destitution results in the final stages.

The difficulty in the way of controlling tuberculosis will remain as it is so long as no adequate means are provided by the state to care for dependents of patients who are willing to be sent to sanatoria or hospitals. No matter what the chances of recovery may be the wrench of parting from home ties with the knowledge that family distress and suffering may be the results of the cessation of his labor is the highest form of human suffering. This added to an already depressed mentality frequently swings the scale against voluntary sanatorium treatment in the important early stages of the disease. Surely it is time that we as health officers realize the gravity of this problem and set about to bring along some system of state aid or sick benefits for tuberculous sufferers. This would assuredly lift the cloud of anxiety from thousands of unfortunate people and their dependents. I look forward to a more general recognition of our responsibility for the tuberculous. Give them some hope of aid for their families and you will have cheerful coöperation between the patient and the health boards to affect not only a cure but to protect exposed families and the community at large.

Health activities are partaking more than formerly a social attitude and much of our future health legislation must surely be along such lines. The state will in the future take an ever more prominent place in health legislation, for it is logically the center from which health activities should emanate.

We should, I think, work for the enactment of comprehensive state legislation upon the following:

1. A state health service similar to the U. S. Public Health Service.
2. The payment by the state of part of health officers' salaries.
3. A state poor relief or old age pension plan.
4. State insurance against tuberculosis disability.
5. State control of tuberculosis sanatoria with the establishment of state preventoria for children.
6. A milk ordinance for the state.
7. A plumbing code for the state.
8. State control of animals slaughtered for food on farms.

MEDICAL ARGUMENT AGAINST NIGHT WORK ESPECIALLY FOR WOMEN EMPLOYEES.

EMERY R. HAYHURST, M. D.,
Ohio State University.

Presented before the Committee on Labor, Ohio House of Representation, March 27, 1919.

I AM not in favor of night work for anybody. It is unnatural for most forms of life to work at night and attempt to sleep in the day. The tonic effects of exercise in daylight are lost. The diurnal temperature which varies in the human being, in whom it is highest at 2.00 to 6.00 p. m. and lowest at 2.00 to 6.00 a. m., is directly interfered with.

A letter on my desk signed by Charles Iffland, International Secretary of the Bakery and Confectionery Workers (headquarters Chicago, Illinois), proclaims that even this trade is strongly against night work, and that for the last thirty-seven years they have endeavored to abolish this most deplorable and miserable system which they consider the greatest evil in their industry and not necessary for the public welfare.

Fatigue is the health menace concerned—daily or chronic fatigue which is the worst form. This condition, defined as failure to respond promptly and efficiently to the normal amount of stimulus is due to a combination of several intrinsic factors: disturbances in normal sleep, rest, recreation, food, and the amount of strain due to work. Night work emphasizes them all and as follows:

(a) Sleep for the night worker is disturbed by the extra noise and bustle of the daytime, hot weather in the summer season, the presence of daylight, and the shift changes which are introduced weekly or bi-monthly in order to make the unfairness of the night work shift an equal burden to all employees.

(b) Rest is invariably broken by additional home duties, especially for women. If all in one household worked by night and slept by day, the disturbances would not be so great, but when noon meals have to be prepared for school children and others, the condition can only be appreciated by the picture of what would be the condition if a household was interrupted each night at 1.00 to 2.00 a. m. for meals and by people going and coming throughout the night.

(c) The recreation period for night workers is not timed with that of others; they lose many advantages of associations. Recreation must include time for association with fellow men, for contemplative reflection and planning or moräle suffers, and many times morality as well. Interest, a chief natural block against fatigue, is absent when moräle is not there.

(d) Food irregularities are prime factors in producing fatigue. Reversal of periods for light and heavy meals, invariable tendency on the part of night workers to lunch with the others during the day, and the effects of shift changes derange digestion.

(e) Strain is usually greater for night workers because night shifts are longer than day shifts, and because artificial illumination is usually at fault—either too poor or too glaring with spectral reflections. Practically all night workers experience difficulty, some call it agony, in keeping themselves keyed to the job between 2.00 and 5.00 a. m.—the period of least functional activity in the human body. This is the period of greater accident rate also.

The accident rate is invariably greater during night shifts. Investigators speak

of the hypnotic influence of moving machinery and the to-and-fro passage of workers under the influence of hour after hour of night work. The British Health of Munition Workers Committee found that the average first aid dressings in a munition factory on the night shift were 508 per thousand employees each month compared to 292 on the day shift per thousand per month.

Illness among night workers was reported from German experience twenty years ago as constantly increased over that for day workers. Perhaps poor ventilation, especially when night work immediately follows day work in a shop, is a common cause, perhaps also the occupying of the same bedrooms as used by others; but undoubtedly a loss of resistance to fatigue from the intrinsic causes above mentioned is the basic factor.

For many workers, especially women, fear on going to work late at night and on coming back early in the morning, especially between the home and the street car line, is a feature inimical to health.

I am against any argument that women should not work; I believe they should, for the good of their health. Whether the given woman should hire out for work and be constrained by a certain number of hours each day is a social problem rather than a medical one so far as she herself is concerned. With the exception of the months of child bearing and nursing, sex should not be looked upon as a disability. Where physical defects exist, which is very often the case, the question differs. About one woman or girl in seven has trouble with the menstrual molimen. Shift changes or any irregularity in daily activities at this period are to be regarded as detrimental. Menstruation, pregnancy, and nursing (lactation) are all phenomena of natural origin and coördinated with the natural arrangement of the order of day and night. Furthermore, married women have less opportunity to nurse their babies and the child's health suffers therefrom. Infractions are followed by disease and death. As it is, 23 per cent of all deaths occur before five years of age (U. S. Census, 1916, p. 11). Children too often bear the brunt of night work.

Pleasure, which is sought for recreation, many times leads the individual into late hours, irregular meals, and fatigue and strain otherwise, but this is no argument that such pleasure is recreation. It is, in fact, dissipation. The biggest problem today before the health economist is to point out the difference between this kind of recreation and dissipation.

Six afflictions are recognized as preventable,—"reducible" would be a better term. These are consumption, pneumonia, accidents, typhoid fever, poisonings, and suicide. With women engaged in gainful occupations, 75 per cent of their deaths are due to these six causes and before they are 45 years of age; for men, 60 per cent of their deaths are so caused and before 45 years of age (Bulletin Ohio State Board of Health, August, 1913, compiled from Tenth U. S. Census, Mortality Statistics—140 chief occupations). In 36 leading occupations for women, tuberculosis was the first cause of death in 27, with heart disease in the lead for 5 more (same statistics).

For women who do night work, the home becomes the place of eating and sleeping, washing and ironing, with a minimum of true recreation, an increase in accumulated fatigue, and most of what constitutes real life is the shop or mill. Night work for women is not in line with conserving womanhood or childhood. It is a menace to state and national vitality.

Outside of great emergency or absolute industrial necessity, all night work should be abolished and more so for women than for men because of the reasons given.

WARNINGS.

Health Lecturers Who Are Apparently Only Book Agents.

For the benefit of Massachusetts communities and for any in other states likely to be visited in similar manner, the following facts are made public.

From the Attleboro Chamber of Commerce there was received the following letter:

Attleboro, Mass., April 3, 1919.

Secretary, American Public Health Association,

Dear Sir: After completing our dealings with a Mrs. Burke and a Mrs. Denman, who endeavored to make arrangements for speaking locally on the subject of "Health," we are pleased to advise you in detail in regard to this matter.

A week ago Mrs. Burke called on several manufacturers, whose recollection is that she represented herself to be affiliated with the "American Health Association," of Boston. Although arrangements had been made by her in two factories to speak to the employees during the noon hour on the subject "Health," suspicions were aroused regarding the purpose of the lecture and the matter was referred to us for investigation.

As investigation through the State Health Department and your office revealed to us the fact that Mrs. Burke was not accredited by either institution, we sent a letter of warning to all our manufacturers.

As a result Mrs. Burke, on her return to this city and accompanied by Mrs. Denman, was detained in the factory where she had planned to speak on Tuesday afternoon.

In the mean time we again communicated with you by telephone to verify the lack of credentials. Thereupon both women were referred to the Board of Health and after a careful questioning by the Chief of Police and the writer, their definite purpose was clearly revealed and they were given the opportunity to leave town.

Although Mrs. Burke acknowledged that she may have claimed to represent the "American Health Association," it developed that they represented the "Home Health Association," a publishing house.

The purpose of these women is to appear before groups of men and women to speak on "Health" for a short period of time, thereupon to secure the "enrollment" of these people which is equivalent to subscribing for the purchase of a health book. The price is very cleverly put as follows: "$2.00 upon enrollment and the balance at 50 cents a week for six months." As you will note, this is equivalent to $15. Both women claimed to have done a wonderful business in the shoe factories in Brockton.

We believe that it is well worth while for you to notify the health officers of all cities and towns in Massachusetts in regard to the activity of these women. Even though they may not use the name of your Association verbatim, the innocent manufacturer is misled through the similarity to your Association.

Yours very truly,

Attleboro Chamber of Commerce,

(Signed) Walter O. Lochner, *Secretary.*

Warning Against Uneducated Nurses.

Mrs. Anna H. Staebler of the Massachusetts Antituberculosis League has discovered that there are women presenting themselves for the situations of factory nurses, who are not properly prepared for the work. Under the new law in Massachusetts there must be provided in every factory employing one hundred or more hands, a "first-aid" assistant. Under the demand it has been found that unscrupulous women are applying for the situations and getting them, who have made no study along "first-aid" or nursing lines. Manufacturers should take notice that no woman should be employed in such a situation without a certificate from the Red Cross or from some regularly established institution or Instructive Nursing Association.

EDITORIAL SECTION

AMERICAN JOURNAL OF PUBLIC HEALTH
EDITORIAL OFFICE: 169 MASSACHUSETTS AVE., BOSTON, MASS.
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THE ADVISORY COUNCIL *VERSUS* THE BOARD OF HEALTH.

From Cambridge, Mass., there comes the latest welcome news that by legislative enactment, the city board of health is to be discarded, and an advisory council to the health officer substituted.

The happiness and welfare of a people depend so much upon maintenance of public health that enlightened communities now recognize this to be one of the foremost duties of a government. The functions of the health department in modern practice have become so broadened and highly specialized that the services of a full-time health officer, specially trained in the science of preventive medicine, are required in the administration of an efficient health organization. Such an official should not be hampered in the exercise of his skill and judgment. It is with regret, therefore, that one reads of a proposed reorganization which does not contemplate a change from the old-fashioned board of health to the modern system providing for a commissioner of health with an advisory council.

The system under which one competent health officer is placed in control of a health department not only works out in practice to the best interests of the public health but it is also conducive to the economic, effectual and expeditious conduct of public business. By contrast, a controlling board of health is a cumbersome, slow moving, complex machine which, meeting at infrequent intervals, tends, by reason of its very nature, to impede rather than to promote the effectiveness of public health activities.

The accomplishments of a board of health of course depend in a large degree upon the character and energy of its individual members. Therefore, in fairness it should be said that all boards are not incompetent, and in many instances failure to secure results which should be obtained must be blamed on the system rather than on any individual member. Certainly there appears to be no reason why a number of part-time, usually unskilled, men should be appointed, with or without compensation, to perform administrative duties that can be accomplished more effectively by a well trained health officer who is free to act promptly and decisively.

From the political standpoint a controlling board might be given preference in that more places are furnished for those to whom political favors must be shown and who in turn may thus be in a position to bestow favors. However, this is anything but desirable from the public health standpoint.

If the board of health was originally designed to interfere as little as possible with personal liberty, it has answered the purpose very well, but it has outlived its usefulness. It could readily dominate its executive, the old-fashioned health officer, usually a busy practitioner, a health officer in name only, an untrained, unskilled, part-time official, who was not in a position to assume great public responsibilities or to insist that his views prevail.

The modern health officer, on the other hand, must be a health officer in fact as well as in name, a full-time official, skilled in the science of preventive medicine, and a man who thoroughly knows his business. It is, therefore, to the best interests of the public health that he be granted full and unhampered authority to act, untrammeled by political considerations, and be advised, rather than controlled, by a council composed of business and professional men of high standing in the community. Thus, without curtailment of his authority he will be aided by wise counsel from those who have the best interests of the community at heart.

CARROL FOX, M. D.

WOMEN'S NEW FIELDS OF WORK.

A field of activity for women that the war has emphasized is in the laboratory. The field itself is not new in this country, for since the time of the graduation of Mrs. Ellen H. Richards, she as a pioneer took her station in laboratory work. Her accomplishments remain a monument to her name. Following her from the same and other technical schools and from the scientific courses of academic institutions, women have from time to time found places for themselves in laboratory work. Progress has been slow, however, although progress there has evidently been, both in bacteriological and industrial laboratory work.

When war was declared, whatever the country that was implicated many new fields of work were opened to women. Some of these were laborious, as in the foundry or shop, others required the deft hand and quick eye in inspection, while in numbers the women found place in chemistry and in bacteriology to replace men called away to that closer service which the country's needs demanded.

From many of these outposts of industry the pioneer women will retire to find occupations more nearly fitted to their strength, and men will once more undertake the laborious trades, but from certain other lines the women will not recede. They have found work to which they are fitted. There is no question about the ability of women to undertake most important service in the bacteriological laboratory, while almost all the fields of public health service are now known to be within their sphere. There are excellent reasons for this.

Hundreds of health officers answered their country's call and undertook its service here or abroad. There will be many of these who will not return, for among the diversity of occupations which have come into their experience they may have found some other one that holds out attractions for the future. Whether in service with the A. E. F. or in camps distant from their homes, many will take up different work or do their work in other circles. Then again the eyes of the people have been opened to the meaning of public health. They appreciate its benefits and realize that it has community and economic interest, as well as individual and personal value. This realization is already evident in the most practical way possible, in the voting by legislatures of larger sums for health work, not in one state or commonwealth alone, but in half a dozen. Important plans are in the air and under realization, plans which call for an increased personnel of skilled health workers.

There will be, therefore, opportunity for women, and foresighted women who have prepared themselves during the past few years will find their vocation. It is not to be

expected, however, that situations will be open on every hand, for already in the shifting of occupation that is the result of the armistice, a large number of women have found such places. At the same time the field is there and is gradually widening, but its real extent will be dependent on the women themselves, how well they can qualify themselves and how well carry on the work.

Similar conditions are true in industry. The time is not far back when the entry of woman into the industrial laboratory was looked upon with surprise if not with disapproval. The war has, however, levelled many barriers and they are homing themselves there. It is to the fields of public health, however, that the JOURNAL wishes to call attention. There are state and commercial laboratories that must multiply, and there are other public health movements like that of child welfare in which they can find a fitting sphere. It is then one of the potential duties of woman in the future to help carry forward work of the highest character towards the improvement of the public health and the betterment of the conditions of life in this, our great country.

GET YOURSELF EXAMINED.

One of the most important by-products of the war has been the information that has been obtained about the physical condition of our young men. All kinds of wild-cat statistics have been current, but the final official figures afford something substantial for a statement. About 38 per cent of the men examined were rejected. More than one-third of the young men of the country, who ought to represent the most healthy of the age groups, cannot conform to military requirements. This revelation is so direct and so important that it suggests to everybody one piece of advice, "Get yourself examined."

He is the merchant headed straight for bankruptcy, who never stops to take account of stock; likewise he is unfortunately guided, who never takes account of stock of his bodily condition. The commercial bank that cares for your funds takes serious notice of your overdrafts and you may save yourself by instant deposits to cover any shortcomings. The bank of health gives you notice of your overdrafts, but where are you to find the deposits in vitality to cover them? You may avoid such overdrafts by a very simple procedure, "Get yourself examined." You will know then what your balance may be; you will be warned to slow up a little in the complex rush of life's activities.

Health administrators know the fundamental nature of taking stock of the human condition. Almost everywhere pre-natal care does its best to endow the child with good health, and the moment it is born there are other agencies to look after its well-being. Here there is a little space in most communities, for medical inspection. "Having your children examined," does not begin generally before school age. For this space, however, associations are at work to fill the need and to assure the child the proper attention which shall be continuous from the cradle to the graduating exercises of the school.

Then there comes the period when the young man or young woman is self-controlled, and here unfortunately the chain is broken. There are agencies towards life extension, but impetuous youth is prone to take his own way, and here, as the examinations have shown, there are serious shortcomings.

Within a few years the toll of the degenerative diseases has focussed attention on the middle-aged man. To him the advice, "Get yourself examined," is advice that is by no means unheeded. At this age man values his life. He has plans and prospects, matters in hand that he is desirous of caring for to completion, and the slogan that heads this article does not fall on deaf ears.

It is then the great group between the schoolhouse door and the climax of the business career that is today most difficult of approach. Filled with the energy and enthusiasm of youthfulness, ignorant of the laws of hygiene, unaware of the existence of the inexorable "bank of health," uninformed that they too may have good advice if they will only seek it, these men and women recklessly or, rather, unheedingly, squander

their reserves in vitality. Their energy and activity make them the more difficult to reach, for they feel perfectly competent to take care of themselves. That they are not, is one of the most striking lessons that the war has brought home to this people. The young men and young women, who must be the future strength of the nation, do not measure up to the standards that they should. This is not because they do not care; it is because they do not know. For this vastly important age group there is the need of bringing to their attention the advice, educational work and supervision that is theirs for the asking. And all of this rests on the fundamental principle, "Get yourself examined." You will then know what you are and where you stand.

A LITTLE MORE TIME.

Large bodies do not always get into motion quickly, but when they are under way, they are capable of a great deal of work. The A. P. H. A. has proved to be no exception to this rule; it has taken some time for it to get into action along the whole line. The awakening is now so complete, so many are expressing interest in the movement, and returns in the form of applications are coming in in increasing numbers, so that it has been deemed only fair to move forward a little the time limit of the "drive." The final date has now been fixed for May 15, which allows still several days for members to accomplish their "bit" in the work. The extra time will afford an opportunity for those who have just become interested to catch up with their fellows, even if the latter have had the start.

It is suggested to members that if the "prospective member" has mislaid his application blank, another one is to be found in this issue of the JOURNAL, under the Table of Contents on Page VII of the advertising section.

CHANGE IN DATE OF NEW ORLEANS MEETING.

The attention of our members is called to the change in date of our New Orleans meeting. Contrary to our original information, it develops that accommodations are available for us in New Orleans during the latter part of October. This date is more desirable because the weather is more agreeable, and because more of our members from the teaching profession would be able to attend.

Accordingly, by a vote of the executive committee, the date has been changed from October 6–9, and the meetings will be held instead on Monday to Thursday, October 27–30, inclusive.

V V V V V

The American Journal of Public Health is only too glad to do its "bit" in the patriotic work of interesting its readers in the Victory Loan.

V V V V V

ASSOCIATION NEWS

HELP WANTED.

In order to help relieve the shortage of sanitarians due to the war, free help-wanted announcements will be carried in this column until further notice. Copy goes to the printer on the fifteenth of each month. In answering keyed advertisements, please mail replies separately.

The Health Employment Bureau also sends lists of applicants to prospective employers without charge.

Public health nurses for rural districts in the South. One or two county positions and a few cotton mill community positions available. For county work nurses must possess initiative, public health training, and must be able to drive a car. Salary $100 and car furnished. Address R. A. D. No. 200, care of this JOURNAL.

In Virginia, Public health nurse for tuberculosis work, also laboratory technician, salary $100 per month for each of the above positions. Address R. W. G., No. 214, care of this JOURNAL.

Full-time Health Officer in North Dakota. Should have ability to analyze water supply as to bacteria and degree of hardness; to diagnose infectious and contagious diseases; to act as food and dairy inspector; and to have charge of all sanitary matters. City of 15,000 population. Address H. M. W., No. 217, care of this JOURNAL.

Graduate nurses with public health training, for county work, specializing in prenatal and infant hygiene. Address K. B. V., No. 220, care of this JOURNAL.

Full-time health officer for Canton, Ohio. A growing industrial city of 85,000. Salary $3,300. This is the beginning of general reorganization of health work. Excellent opportunity for creating efficient municipal health department. In applying state age, education, experience and other qualifications. Address, Board of Health, Canton, Ohio.

Public health nurse in New York State. Salary $100 per month. Address H. H. C., No. 227, care of this JOURNAL.

Competent bacteriologist to take charge and run the Lewisburg Laboratories, Inc., on a commission basis. Good building and good equipment, fine location. Good opportunity for the right man. state age and experience, give references, state whether married or single. Address Stuart & Watts, Lewisburg, W. Va.

Assistant bacteriologist, State Department of Health. Salary $1,200 to $1,800. Men only, between the ages of 21 to 35 years. Open to non-residents. Candidates should have a college education or its equivalent, and a thorough knowledge of the principles of bacteriology and infection and immunity and practical experience in the bacteriologic diagnosis of infectious diseases. Apply for application form before May 12 to State Civil Service Commission, Albany, N. Y.

Bacteriologist, State Department of Health. Salary $2,000 to $2,500. Men only, between the ages of 25 to 40 years. Open to non-residents. Applicants must have a thorough knowledge of the principles of bacteriology, immunity, and vaccine and serum therapy, and considerable experience in the diagnosis and study of the pathogenic bacteria or in the preparation of vaccines, serums and antitoxins. Apply for application form before May 12 to State Civil Service Commission, Albany, N. Y.

CAMPAIGN NEWS.

The Southern trip of the secretary, which the *News Letter* began, but which for lack of space was continued only to Richmond, included a very interesting rally at Pittsburgh on April 16. Here a baker's dozen of men, interested in public health, assembled at a luncheon on the invitation of Major W. H. Davis, who a year ago succeeded Lieutenant-Colonel Edwards as Health Commissioner of the city. Representatives were present from the Pittsburgh Health Department, University of Pittsburgh and Carnegie Institute of Technology. Dr. Oskar Klotz, Professor W. U. C. Baton and Dr. William Henry Mercur were appointed a committee to organize the local campaign. In Pittsburgh the especial effort is to present the advantages of membership to industrial physicians, who should swell the list of A. P. H. A. members in and about this important manufacturing center.

With only two or three days in Boston the secretary made a trip to Augusta, Me., on the occasion of the second annual meeting of the local boards of health with the State Department of Health. Here he addressed the meeting on "The Relation of the American Public Health Association to State Health Work." Between ninety and one hundred delegates were present and steps were taken towards the formation of a state health officers' association. Five new members, as noted in the lists elsewhere in this issue of the JOURNAL, were one of the immediate results, with an active interest established in the Association in Maine which will probably bring in other additions to the roll.

(*Continued on page 378.*)

LIST OF NEW MEMBERS

PROPOSED FOR ELECTION TO THE

A. P. H. A.

FROM APRIL 19 TO APRIL 26, 1919, AND THEIR SPONSORS—OUR A.P.H.A.triots

A.P.H.A.triots	—and—	The New Members Whom They Introduced
(States arranged in alphabetical order)		
CARL A. GROTE, Huntsville, Ala.		ALLEN MARION WALDROP, Jasper, Ala. County Health Officer
B. L. ARMS, M. D., Jacksonville, Fla.		PAUL PULLEN SALTER, M. D., Montgomery, Ala. State Bacteriologist
		OSCAR SUTTLE JUSTICE, M. D., Central, Ala. County Health Officer
		S. A. MATTHEWS, M. D., Mobile, Ala. Prof. of Physiology, Univ. of Ala. Med. School
		BRON DEE BLACKWELDER, M. D., La Grange, Ga. Health Officer
		SEALE HARRIS, M. D., Birmingham, Ala.
		JOHN OSGOOD RUSH, M. D., L.L. D., Mobile, Ala.
		EDWIN WALDEMAR EDOHL, Montgomery, Ala. Bacteriologist
		FRED CARTER KEISLING, M. D., Jacksonville, Fla.
		MARVIN FLETCHER HAYGOOD, M. D., Atlanta, Ga. Director, Div. Rural Sanitation and Epidemiologist
		JNO. SCHREIBER, M. D., Thomasville, Ga. County Health Officer
J. J. McSHANE, M. D., Springfield, Ill.		CHRISTIAN HERMAN DIEHL, B. S., M. D., Effingham, Ill. District Health Officer
JOHN A. KAPPELMAN, M. D., Chicago, Ill.		REV. EDWARD HARDY, Smithshire, Ill. Methodist Pastor
		J. L. PAULEN, Curran, Ill. Supervisor, School Teacher
J. J. ENTZ, M. D., Hillsboro, Kansas		W. PARKER IRWIN, M. D., Florence, Kansas
B. A. LEDBETTER, M. D., New Orleans, La.		CHARLES F. GELBKE, M. D., Gretna, La.
L. D. BRISTOL, M. D., Augusta, Me.		LOUISE L. DOHERTY, B. S., Augusta, Me. Chemist
		E. D. MERRILL, M. D., Foxcroft, Me.
		FRANCES B. MOSHER, Bangor, Me. Director Modern Health Crusade
H. D. WORTH, M. D., Bangor, Me.		WILFRED A. HENNESSY, Bangor, Me. Sec'y, Chamber of Commerce
		JAMES Q. GULNAC, Bangor, Me. Member Public Health Council of Maine
SOL. PINCUS, U. S. P. H. S., Odenton, Md.		H. FRANCIS S. TAIT, B. S., M. E., Odenton, Md. Sanitary Engineer, U. S. Public Health Service
P. CHALLIS BARTLETT, M. D., Newton Highlands, Mass.		LEWIS M. PALMER, M. D., Framingham, Mass.
FRANCIS P. DENNY, M. D., Brookline, Mass.		ERNEST B. DANE, Brookline, Mass. Bank President, Member Bd. of Health
CHARLES W. MILLIKIN, M. D., Barnstable, Mass.		DR. WM. H. ALLEN, Mansfield, Mass. Chairman of the Bd. of Health
JOHN RITCHIE, JR., Cambridge, Mass.		MARY GODDARD POTTER, M. D., New York City. Teacher of Physical Training
WILLARD L. WARD, M. D., Brookline, Mass.		ARTHUR G. CHILDS, Waltham, Mass. Milk Dealer
		CHARLES W. DEGANO, M. D. V., Boston, Mass. Inspector of Animals
		CHARLES L. ALDEN, JR., Boston, Mass. Treas. of Alden Bros. Co.
		HENRY CARLTON SMITH, Boston, Mass. Harvard Medical School. Chemist for Brookline Bd. of Health
		MRS. ELBERT A. HARVEY, Brookline, Mass. Dietitian, Brookline Bd. of Health
J. PENTEADO BILL, M. D., Boston, Mass.		GEORGE EDWIN BILL, A. B., M. D., Harrisburg, Penn.
		SARAH J. WILLIAMS, R. N., Melrose, Mass. Graduate Nurse, Industrial Work
NELSON C. DAVIS, M. D., Boston, Mass.		JOSEPH F. PHELAN, Boston, Mass. Dairy Sanitarian
		CLIFTON WARD HARRINGTON, M. D., Everett, Mass.
		HENRY DAVIS, Boston, Mass. President, The Stetson Press, Inc.
ARTHUR W. HEDRICH, Boston, Mass.		E. C. HOOPER, M. D., C. M., Waterville, Me. Health Officer

PROF. C. M. HILLIARD, Boston, Mass.	RUTH WICKENDEN, S. B., Boston, Mass. Instructor in Bacteriology, Simmons College
	BESSIE LAVINIA JOST, S. B., Jamaica Plain, Mass. Instructor in Bacteriology, Simmons College
	MARY BOSWORTH STOCKING, B. S., M. S., Boston, Mass. Instructor at Simmons College
CHARLES H. HOOD, Boston, Mass.	HARVEY P. HOOD, 2nd, Boston, Mass. Dairy Products
VICTOR SAFFORD, M. D., Boston, Mass.	AUBREY JOHN COLLINS, M. D., Boston, Mass. Medical Inspector, Boston Health Dept.
	PHILIP CASTLEMAN, B. S., M. S., M. D., Boston, Mass. Dept. Health Commissioner
	JOHN SYLVESTER BROWNRIGG, M. D., Roxbury, Mass.
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LAWRASON BROWN, M. D., Saranac Lake, N. Y.	EDDY WHITBY, Saranac Lake, N. Y. Pres. of the Consolidated Bd. of Health
	CAPT. E. N. PACKARD, JR., New Haven, Conn. Base Hospital, 16
M. GORMAN PRINCE, Hobart, N. Y.	MRS. WILBER D. HOOSE, Hobart, N. Y. Bacteriologist
F. L. RECTOR, M. D., Brooklyn, N. Y.	ELI A. MILLER, M. D., Pittsburgh, Pa. Scientific Asst., U. S. Public Health Service
HAROLD B. WOOD, M. D., Albany, N. Y.	JOSEPHINE B. NEAL, A. B., M. D., New York City. Physician, in charge Meningitis Div., N. Y. Bd. of Health
DR. EUGENE LYMAN FISK, New York City	CHARLES TILLEY SHARPE, B. A., M. D., C. M., New York City. Physician, Life Extension Bldg.
WATSON S. RANKIN, M. D., Raleigh, N. C.	LAWRENCE JACKSON SMITH, M. D., Wilson, N. C. Health Officer
HERBERT L. DAVIS, M. D., Cleveland, Ohio	ARTHUR B. BIRGE, Cleveland, Ohio. Director of Personnel of the Aluminum Castings Co.
J. VICTOR GREENBAUM, Cincinnati, Ohio	JULIEN E. BENJAMIN, B. S., M. D., Cincinnati, Ohio
EMERY R. HAYHURST, M. D., Columbus, Ohio	PERCY K. HOLMES, B. S., A. M., M. D., Delaware, Ohio. Physician and Dir. Dept. Hyg. and Phys. Educ.
EDWARD J. SCHWARTZ, M. D., Columbus, Ohio	EARL MUSSLEMAN, M. D., Alliance, Ohio. Health Officer
SAMUEL W. TROST, Cincinnati, Ohio	MAURICE JOSEPH, Cincinnati, Ohio. Manufacturer
ERNEST ZUEBLIN, M. D., Cincinnati, Ohio	VERA VIOLA NORTON, M. D., Cincinnati, Ohio. Cincinnati Tuberculosis Sanatorium
RALPH E. IRWIN, Harrisburg, Penn.	J. WARREN FORTENBAUGH, Harrisburg, Penn. Sanitary Engr., State Dept. of Health
C. C. CRAFT, M. D., Bishopville, S. C.	RICHARD A. BLACK, Florence, S. C. Health Officer
SAMUEL G. PAUL, M. D., Salt Lake City, Utah	GEORGE W. BAILEY, B. A., Salt Lake City, Utah. Bacteriologist
	HELMINA JEIDELL, A. B., M. D., Salt Lake City, Utah. In charge of Child Hygiene and Pre-Natal Work
	J. L. WEILER, Salt Lake City, Utah. Health Inspector, Chief of Div. Sanitary Insp.
	ALMA M. KARLSSON, R. N., Salt Lake City. Graduate Nurse, In charge of all City Nurses
R. A. MARTIN, M. D., Petersburg, Va.	J. R. BECKWITH, M. D., Petersburg, Va. General Practice of Medicine
	W. F. DREWRY, M. D., Petersburg, Va. Supt. Central State Hospital
	J. STANLEY HUBBARD, Petersburg, Va. Registrar of Vital Statistics
P. S. SCHENCK, M. D., Norfolk, Va.	CLARENCE FLOYD HOLTEGEL, M. D., B. S., Norfolk, Va. U. S. N.
	LILLIAN M. BROCKWELL, Norfolk, Va. Asst. Bacteriologist
JOHN B. ANDERSON, M. D., Seattle, Wash.	J. E. HENRY, M. D., Seattle, Wash. Director, Div. of Communicable Diseases
	H. H. McCARTHY, M. D., Spokane, Wash. Pres., Board of Health
	F. R. HEDGES, M. D., Everett, Wash. Member of Bd. of Health
	MRS. R. C. McCREDIE, Sunnyside, Wash. Member of Bd. of Health
	J. R. BROWN, M. D., Tacoma, Wash. Member of Bd. of Health
	E. F. BENSON, Olympia, Wash. Commissioner, Dept. of Agriculture

J. B. KELLY, Seattle, Wash.

MAYO TOLMAN, Charleston, W. Va.

GORDON BELL, M. D., Winnipeg, Manitoba

FRANK S. BOURNS, M. D., Seattle, Wash. Diagnostician

L. W. PAGE, M. D., Upshur Co., W. Va.

CHAS. H. LEE, M. A., Winnipeg, Canada. Prof. of Bacteriology, Agricultural College

Names of Proposed Members whose A.P.H.A.triots are not known

CHAIN BELT CO., Milwaukee, Wis. Attention F. H. Kan, Employment and Welfare Mgr.

BERTRAND EARLE ROBERTS, M. D., Boston, Mass. Asst. Surgeon, U. S. Public Health Service

EMIL C. ROBITSHEK, M. D., Minneapolis, Minn. Eitel Hospital, Surgery and Control and Prevention of Cancer

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SUPPLEMENTARY LIST.

APRIL 26-30, 1919.

DON W. BINGHAM, S. E., San Francisco, Cal.

GAYLE GRAHAM MOSELEY, M. D., San Francisco, Cal. Medical Referee, Aetna Life Ins. Co.

M. M. McCORD, M. D., Rome, Ga.

MARCUS MASHBURN, M. D., Valdosta, Ga. Health Officer

JOHN A. KAPPELMAN, M. D., Chicago, Ill.

A. M. FROMM, M. D., Ramsey, Ill.

JOSEPH C. SHAFER, M. D., Noble, Ill.

JOHN H. HAMILTON, M. D., Iowa City, Iowa

VIVIAN SHUMWAY, B. A., Iowa City, Iowa. Bacteriologist

MARGARET LINCOLN TAYLOR, B. S., Iowa City, Iowa. Bacteriologist

CHARLES S. GRANT, M. D., Iowa City, Iowa. State Board of Health

SARAH R. KELMAN, M. D., A. B., Iowa City, Iowa. Bacteriologist and Pathologist

A. T. McCORMACK, M. D., Bowling Green, Ky.
J. N. McCORMACK, M. D., Bowling Green, Ky.

JOHN ALVIN PHELPS, M. D., Hickman, Ky. County Health Officer

JOHN L. PORTER, M. D., New Orleans, La.

RALPH EARL, B. S., New Orleans, La. Asst. Director, Water Purification Station

L. D. BRISTOL, M. D., Augusta, Maine.

MARTIN CROWELL MADDEN, M. D., Old Town, Maine. City Health Officer

ALFRED KATZ, Springfield, Mass.

HAROLD T. MARTIN, Chicopee Falls, Mass. Mgr. Health & Safety Dept., Fisk Rubber Co.

J. PENTEADO BILL, M. D., Boston, Mass.

DAVID LAWRENCE WILLIAMS, A. M., M. D., Boston, Mass.

SUSAN M. HARDING, R. N., Newton, Mass. Public Health Nurse

ARNOLD NOBLE ALLEN, M. D., Roslindale, Mass. Asst. Dir., State Antitoxin and Vaccine Laboratory

L. R. DANIELS, M. D., Watertown, Mass. Hood Rubber Co.

H. W. CLARK, Boston, Mass.

ARTHUR R. G. BOOTH, S. B., Boston, Mass. Asst. Chemist, State Dept. of Health

PROF. C. M. HILLIARD, Boston, Mass.

EDITH ELIZABETH RAYNOR, Boston, Mass. Physical Therapeutist and Health Instructor

CHARLES H. HOOD, Boston, Mass.

FORREST B. MAKECHNIE, Everett, Mass. Dairy Products

H. T. G. NAUMANN, M. A., Port Huron, Mich.

A. L. CALLERY, M. D., Port Huron, Mich.

EUGENE LYMAN FISK, M. D., New York City

HAROLD A. LEY, New York City. President, Life Extension Institute

GEORGE H. VAN BUREN, New York City

PHILIP LEIBOFF, B. S., New York City. Occupation Rating, Life Insurance

HENRY J. KLEIN, B. S., New York City. Statistician

BARBARA B. DRUM, B. A., M. S., Durham, N. C.

AGNES REESE HARRIS, R. N., Durham, N. C. City Nurse

CHARLES E. LOW, M. D., Wilmington, N. C.

JOSEPH S. O'HARE, D. V. S., Wilmington, N. C. Meat and Food Inspector

WATSON S. RANKIN, M. D., Raleigh, N. C.

WILBUR A. McPHAUL, M. D., Lumberton, N. C. Health Officer

ENRIQUE E. ECKER, Ph. D., Cleveland, Ohio

KAKUTARO T. SASANO, B. A., Lakewood, Ohio. Serologist, Cleveland Health Dept.

GAIUS E. HARMON, M. D., Cleveland, Ohio

HAROLD C. KNOPF, A. B., Cleveland, Ohio. City Chemist

J. P. KRANZ, Nashville, Tenn.

MRS. S. T. BEASLEY, Secy., Memphis, Tenn. Shelby County Tuberculosis Society

CARL F. RAVER, M. D., Charleston, W. Va.

HARRY N. MOSER, M. D., Terra Alta, W. Va. Health Officer

HARRY F. COFFMAN, M. D., Keyser, W. Va. Health Officer

PROF. SELSKAR M. GUNN, Paris, France

ALEXANDER FLEISHER, A. B., A. M., Ph. D., New York City. Sect. Principale Service de Propogande, C. P. T. F.

SPONSOR NOT NAMED

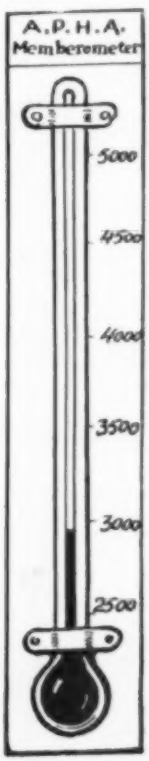
R. S. SCOBELL, Erie, Penn. Business Mgr., School Distric

Campaign News—(*Continued*).

In the far South interest in the A. P. H. A. has been the occasion of a recent trip by Dr. B. L. Arms of the State Board of Health of Florida, to the medical society meetings of neighboring states. Dr. Arms attended the gathering of the State Medical Association of Alabama at Mobile, where at the regular afternoon session he presented the story of the A. P. H. A., exciting a great deal of interest. Dr. S. W. Welch, state health officer, took up the subject with enthusiasm, and speaking to the company said that he wanted every county health officer to join and to be present at the meeting in New Orleans in October. Dr. Henry G. Perry added to the appeal for new members. Almost immediately seven applications for membership were received from Alabama, and doubtless others will come as the leaven begins to work.

From Mobile, Dr. Arms went to Atlanta to attend the meeting of the Georgia State Medical Association, where through the courtesy of Dr. T. F. Abercrombie, State Health Officer, he had an opportunity to address the company. Two applications were made at once and others may follow.

ON APRIL 30, 1919, THE MEMBEROMETER



Registers 2870 A. P. H. A. Members. It has a good start now and is steadily rising.

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WORDS OF ENCOURAGEMENT.

Encouraging and appreciative words reach the JOURNAL constantly from members who are interested in increasing the A. P. H. A. membership. Here are a few from different sources:

John A. Kappelman, M. D., of the Illinois State Board, who wrote earlier, "I am going to make you real cross," by the sending of new members, is "making good." He has sent the applications of eight, a remarkable record.

Professor C. M. Hilliard of Simmons College: "I really believe that the impulse given by this coöperative work of members will reflect itself in new activities for the future. Please call on me for assistance if I can give it."

Robert A. Martin, M. D., Board of Health, Petersburg, Va.: "I am enclosing three applications for membership in the A. P. H. A. Send me some more blank forms and I will demonstrate the zeal of a new convert." Dr. Martin became a member in the early part of the "drive."

John B. Anderson, M. D., Commissioner of Health, Seattle, Wash., in sending five applications together, writes: "The members of the Board are given this subscription through the courtesy of the Department."

John J. Mullowney, M. D., of Philadelphia: "Indeed every doctor in the country ought to be a member."

NOTE FROM THE COMMITTEE ON STATISTICAL STUDY OF THE INFLUENZA EPIDEMIC.

According to official figures recently published for the mortality statistics of ninety-five large towns and cities in England and Wales and for the City of Paris by single weeks during 1918, some idea of the effect of the epidemic upon the general mortality rate may be obtained. For the British figures the death-rates of the corresponding weeks in 1917 are shown and for the French figures, the average death-rates for the period 1906–1910 are given by way of contrast. These figures were given to the JOURNAL by the Vital Statistics Section, Committee on Statistical Study of the Influenza Epidemic.

The committee is able to offer these data to readers of the JOURNAL in consequence of the kind coöperation of one of its members connected in an official capacity in a department of the Federal Government in Washington.

TABLE I.

ANNUAL DEATH-RATES PER 1,000 OF POPULATION BY WEEKS, 1917 AND 1918 IN NINETY-FIVE GREAT TOWNS OF ENGLAND AND WALES (COMBINED).

From Weekly Return of Births and Deaths Registered: London and Ninety-five Other Great Towns, London 1917 and 1918. Vols. LXXVIII and LXXIX.

Month	Week Ending	95 Great Towns		Month	Week Ending	95 Great Towns	
		1917	1918			1917	1918
January	5	18.9	18.1	July	6	11.2	19.0
	12	16.9	19.6		13	11.7	21.1
	19	16.2	18.7		20	11.2	18.0
	26	17.0	17.1		27	11.2	13.1
February	2	18.7	15.0	August	3	10.3	12.1
	9	21.2	15.7		10	10.4	10.4
	16	22.5	14.8		17	10.5	10.4
	23	21.0	16.7		24	10.6	10.8
					31	10.6	11.2
March	2	18.4	15.7				
	9	17.1	16.7	September	7	11.1	11.9
	16	18.5	16.6		14	10.6	11.3
	23	16.5	16.5		21	11.1	11.7
	30	17.7	16.1		28	10.8	11.4
April	6	17.3	16.5	October	5	11.1	12.6
	13	18.5	16.1		12	11.8	15.1
	20	18.4	15.4		19	12.0	20.7
	27	16.7	15.9		26	12.0	30.9
May	4	15.7	14.7	November	2	12.6	43.0
	11	15.3	15.0		9	11.8	43.8
	18	14.3	14.3		16	12.2	38.7
	25	14.1	13.7		23	12.3	36.3
					30	11.9	36.5
June	1	12.7	12.7				
	8	12.7	11.5	December	7	12.4	28.6
	15	12.8	11.4		14	13.6	20.2
	22	12.4	11.7		21	15.3	16.8
	29	11.7	13.2		28	17.9	14.8

TABLE II.

ANNUAL DEATH-RATE PER 1,000 POPULATION BY WEEKS 1918, IN PARIS WITH MEAN WEEKLY RATE FOR CORRESPONDING MONTHS OF 5 YEARS PRECEDING.

(From *Bulletin Hebdomadaire de Statistique Municipale*)Paris 1918.

Month	Week Ending	Average (1906–1910)	1918	Month	Week Ending	Average (1906–1910)	1918
January	5	17.1	21.0	July	6	12.8	13.0
	12	17.1	19.3		13	12.8	11.5
	19	17.1	17.8		20	12.8	10.4
	26	17.1	15.9		27	12.8	10.7
February	2	19.8	15.9	August	3	12.2	9.7
	9	19.8	14.5		10	12.2	10.7
	16	19.8	16.0		17	12.2	10.6
	23	19.8	16.0		24	12.2	12.1
					31	11.8	11.9
March	2	19.1	17.4				
	9	19.1	21.1	September	7	11.8	12.9
	16	19.1	18.0		14	11.8	15.7
	23	19.1	20.4		21	11.9	15.9
	30	18.0	18.9		28	12.9	17.8
April	6	18.0	17.3	October	5	12.9	26.0
	13	18.0	16.1		12	12.9	34.9
	20	18.0	15.1		19	12.9	46.1
	27	15.7	16.3		26	12.9	43.2
May	4	15.7	14.5	November	2	13.7	28.4
	11	15.7	12.7		9	13.7	21.0
	18	15.7	13.3		16	13.7	17.9
	25	15.7	12.1		23	13.7	19.4
					30	16.0	20.6
June	1	14.2	11.1				
	8	14.2	11.0	December	7	16.0	19.7
	15	14.2	11.5		14	16.0	15.9
	22	12.8	11.5				

E. W. KOPF, *Chairman of Committee.*

NEED FOR MODEL HEALTH LEGISLATION.

Successful administration of a health department depends upon a number of factors, some of which are an adequate appropriation, the skill and personality of the health officer, the attitude of the citizens, and proper legislation. Although some health departments seem to get along without proper laws and a few, but very few, are reasonably efficient in spite of those they have, adequate legislation is one of the essential foundations for the protection of the public health.

Analysis of a large number of ordinances and codes pertaining, or supposed to pertain, to public health, shows that there is great need of standard laws. In general there is little uniformity in requirements and penalties, though some of the more recently drafted sanitary codes appear to have been copied verbatim from one another regardless of local conditions. The laws of municipalities within a single state vary greatly, although all are supposed to be based on the authority of the same statute law.

Some of the more important faults which may be urged against many health codes are: (1) they are not in accordance with modern scientific sanitary knowledge; (2) they are poorly balanced, much attention being devoted to the so-called nuisances, plumbing, slaughter houses, and the like, and little to the control of communicable diseases; (3) they are unnecessarily long, using involved and com-

plicated language with much repetition; (4) they are often unconstitutional; (5) they are frequently carelessly drawn. An example of the last point is given in a recently issued state sanitary code which requires that "no public funeral shall be held without a permit from the local health officer." From the place of this phrase in the code it is probable that it means that no person dead of certain dangerous communicable diseases shall have a public funeral without a permit. Nowhere does it say this directly or indirectly, however, nor is there any clue as to how the permit is to be issued or to whom.

Health codes are generally products of evolution. They were first drawn up in the days when miasms and noisome odors were considered important. In spite of amendments some of them are just as antiquated as ever and their requirements ludicrous. Such phrases as, "No person shall raise the surface of any street or depress the same so as to permanently cause noisome odors or noxious gases to arise," or "Land which is wet, rotten, or spongy shall be deemed a nuisance," or "No peddler, vender, huckster, or junkman shall outcry, peddle or hawk his wares between the hours of 7 a. m. and 8 p. m. to the prejudice or peril of life and health of any human being" are ridiculous in modern health codes. They are there, however, and the above are exact quotations.

The solution of the problem of adequate legislation is to have a model health code. The object of such a code would be to present in correct legal phraseology and in accordance with the most advanced scientific knowledge the essential features of public health legislation. It would give the minimum requirements which any municipality should adopt. It would embrace such subjects as the control of communicable diseases, control of milk and other food supplies, waste disposal, abatement of real health nuisances and other matters that are related to public health. Of course, there already are excellent laws covering some of these items and in some ways a model code would be a correlation of these with some needed corrections and improvements. The communities which need legislation most do not always have access to these existing good laws; they do not know of their existence, and sometimes if they do, are not aware that they are good. A model law is not necessarily for the municipalities having advanced health work but for those which have not, and these far outnumber the former.

Certain branches of public health work have already been covered by model laws. For instance, there is the model vital statistics law and that for morbidity reports. There is also a model housing law. Standards have been adopted for other subjects, such as control of communicable diseases and milk, but these standards give the requirements, but do not offer any law. Plumbing codes have been standardized, but plumbing has so little influence on public health and requires so much technical knowledge that it is best omitted from a model law. The suggestion has been made, though, that the actual sanitary requirements relating to public health for plumbing be incorporated in a model law. They would be brief and might help to clarify the situation.

The first requirement of a model law is that it shall be accurate from both the sanitary and legal standpoints, and next that it shall be reasonable. Further, it should be concise, intelligible, easily enforceable, and practical. The main difficulty in the way of the scheme is due to the variation in powers and scope given in state health laws, but this difficulty is not insurmountable. If a model law, framed by experts, conflicts with state laws, it is the fault of the state laws and they should promptly be amended and brought up to date. Explanatory notes would be helpful in connection with the model law and would in many instances serve to point out ways in which to adapt the law to local conditions.

In order to assist in the work of standardizing health legislation the American Public Health Association has appointed a committee to draw up a model law for municipalities. This committee consists of the following members: Dr. W. C. Woodward, Health Commissioner of Boston, Mass., chairman; Dr. C. V. Chapin, Superintendent of Health, Providence, R. I.; Dr. H. B. Hemenway, Chief, Division of Public Health Instruction, Illinois Department of Health; Dr. W. S. Rankin, Secretary North Carolina Board of Health; Dr. C. E. McCombs, Bureau of Municipal Research, New York City; Surgeon Carroll Fox of the U. S. Public Health Service; Lieut. C. E. Turner, Sanitary Engineer of the U. S. Shipping Board, and Mr. James A. Tobey, late first lieutenant in the army sanitary corps, secretary. This committee was appointed in March and is now at work, the secretary devoting his full time to the matter. The committee will be glad to receive suggestions and comments from members of the Association and hopes to create discussion. The secretary's address is care of American Public Health Association, 169 Massachusetts Avenue, Boston, Mass.

James A. Tobey, S. B.,
Secretary, Committee on Model Legislation.

BOOKS AND REPORTS REVIEWED

Sewage Disposal. *Leonard P. Kinnicutt, C.-E. A. Winslow, and R. Winthrop Pratt. Second Edition. Rewritten. New York: John Wiley and Sons, Inc. Pp. 547. Price $4.00.*

As a rule books on sewage disposal are encyclopædic and ill adapted for use or ready reference, except by experts in sanitary engineering. Very often too, the principles underlying the subject are not presented clearly and concisely. The authors of this book have succeeded admirably in covering a vast field in a simple and clear way. They have also included a discussion of the principles of each process employed in sewage disposal. Greater interest is added to the book by various references and photographs of the methods of sewage disposal employed in Russia and Japan. Doubtless it will surprise many American sewage experts to learn that experiments on activated sludge have been going on in Moscow for some time.

The second edition differs from the first essentially in the following aspects: The subject of fine screening is fully discussed and brought up to date. There is an excellent and complete chapter on activated sludge, which includes the experience of this country and Europe. The chapter on sewage treatment by chemical precipitation is considerably enlarged to include the results obtained by the Miles acid process in Boston, New Haven, Baltimore and elsewhere. The chapter on the Imhoff tank is also enlarged, and the difficulties experienced in operation are noted and analyzed. There are also excellent chapters on the disposal of wastes from unsewered homes and institutions, on the principles of design and operation of sewage treatment works, on sludge disposal, and on the disinfection of sewage and sewage effluents.

It is interesting to note that the authors apparently favor sedimentation over fine screening for the removal of suspended solids from domestic sewage. Comparative results obtained from Imhoff tanks and Riensch Wurl screens are given, which show that the latter do not remove as much solid matter as the two-story tanks.

The good and bad points about the acid process for treating sewage are clearly stated. That the process is efficient is apparent. But whether it will be economical depends on the value of the grease which is recovered.

The book is one which can be recommended highly to all engineers, public health workers, social health workers, and others who desire to have a complete, yet a simple and clear statement of the principles and practice of sewage disposal.

Murray P. Horowitz, M. S.

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Trench Fever. *Report of Commission, Medical Research Committee, American Red Cross. Prepared for Publication by Richard P. Strong, Major, M. P. C. Oxford, Eng.: Oxford University Press, 1918. 446 Pages. VII Plates. VII Charts. 65 Tables.*

The discovery, study, and conquest of "trench fever" in the span of three years is a most striking and complete demonstration of the perfection of modern scientific investigation.

"During the latter part of the year 1915 and in 1916 the occurrence of a disease characterized by febrile relapses and subsequently named 'trench fever' became gradually recognized in the British armies in northern France." In October, 1917, Strong recommended the method of transmission of this disease as an appropriate subject for study to the medical research committee, and in the latter part of 1918 the results of the investigation were published, giving the salient facts as to the nature, occurrence, etiology, mode of transmission and prevention of trench fever, together with the details of the experiments and the clinical histories, charts and tables. Not only is the achievement in research monumental but the presentation and description is masterly.

As human subjects were essential to the studies, volunteers from the American Army were requested and eighty-two were employed in the experiments.

The following facts were established:

(1) Trench fever is a specific infectious disease, not related to typhoid or paratyphoid fever as hitherto suspected by some investigators.

(2) The causative agent is a filterable virus of rather extraordinary resistance.

(3) The virus is present particularly in the plasma of the blood in trench fever cases, and is occasionally found in the urine and sputum.

(4) "The disease is transmitted naturally by the louse *Pediculus humanus*, Linn., var. *corporis*, and this is the important and common means of transmission." The louse may transmit the disease by the bite, or by the subject rubbing the excrement into the scarified skin.

(5) Prevention is fundamentally a problem of keeping men free from infestation with lice.

Curtis M. Hilliard.

Floating Matter of the Air*

By John Tyndall

"An inquiry into the decomposition of vapours by light, begun in 1868 and continued in 1869, in which it was necessary to employ optically pure air, led me to experiment on the floating matter of the atmosphere.

. . . "The state of medical opinion in England is correctly described in a recent number of the *British Medical Journal*, where, in answer to the question, 'In what way is contagium generated and communicated?' we have the reply that, notwithstanding an almost incalculable amount of patient labour, the actual results obtained, especially as regards the manner of generation of contagium, have been most disappointing. Observers are even yet at variance whether these minute particles, whose discovery we have just noticed, and other disease germs, are always produced from like bodies previously existing, or whether they do not, under certain favorable conditions, spring into existence *de novo*. . . .

. . . "On the 10th of September, 1875, this case was closed. The passage of a concentrated beam across it through its two side windows then showed the air within it to be laden with floating matter. On the 13th, it was again examined. Before the beam entered, and after it quitted the case, its track was vivid in the air, but within the case it vanished. Three days of quiet had sufficed to cause all the floating matter to be deposited on the interior surfaces, where it was retained by a coating of glycerine, with which these surfaces had been purposely varnished.

. . . "The front and back of this chamber were squares of 14 inches the side, the depth of the chamber being 8.5 inches. It contained, therefore, 1666 cubic inches of air, which had unimpeded access to the liquid in the tubes. No stoppers were employed. The air was unaffected by calcination, or even by filtering. Neither cotton-wool nor hermetic sealing was resorted to. Self-subsidence was the only means employed to rid the 'untortured' air of its floating matter. . . . For the sake of distinction I will call the tubes opening into the case the *protected* tubes, and those opening into the common air the *exposed* tubes.

"On the 17th of September all the protected tubes were bright and clear, while all the exposed tubes were distinctly turbid . . . while this process of putrefaction was going on outside, the tubes opening into the moteless air of the case remained perfectly clear and void of life.

. . . "Here a complementary experiment was made. It remained to be proved that those long dormant clear infusions had undergone no change which interfered with their ability to develop and maintain life. On the 13th of October, therefore, the small panel was removed from the back of one of the cases, and with three new pipettes specimens were taken from the three tubes within it. The closest search revealed no living thing. The air of the laboratory being permitted to diffuse freely into the case, on the day after the removal of the panel the test beam showed the case to be charged with floating matter.

"The access of this matter was the only condition necessary to the production of life; for on the 17th all the tubes were muddy and swarming with Bacteria. . . .

"It is in connection with the germ theory of contagious disease that the doctrine of spontaneous generation assumes its gravest aspect. My interest in the general question was first excited by the investigations of Pasteur, while the medical hearings of the doctrine were subsequently made clear to me, mainly, I ought to say, by the writings and conversations of the late Dr. William Budd, who was the first of our countrymen to grasp with true philosophic insight the doctrine of the 'vitality of contagia,' which is now every day gaining ground.

. . . "In Pasteur's researches the Bacterium remained a Bacterium, the Vibrio a Vibrio, the Peuicillium a Peuicilium, and the Torula a Torula. Sow any of these in a state of purity in an appropriate liquid; you get it, and it alone, in the subsequent crop. In like manner, sow smallpox in the human body, your crop is smallpox. Sow there scarlatina and your crop is scarlatina. Sow typhoid virus, your crop is tyhoid. Cholera, your crop is cholera. The disease bears as constant a relation to its contagium as the microscopic organisms just enumerated do to their germs, or indeed as a thistle does to its seed. No wonder then, with analogies so obvious and so striking, that the conviction is spreading and growing daily in strength, that reproductive parasitic life is at the root of epidemic disease, that living ferments finding lodging in the body increase there and multiply, directly ruining the tissue on which they subsist, or destroying life indirectly by the generation of poisonous compounds within the body. This conclusion, which comes to us with a presumption almost amounting to demonstration is clinched by the fact

* This is the fourth in the series of extracts from classic public health literature selected by Prof. C. M. Hilliard, associate professor of biology and public health, Simmons College, Boston.

that virulently infective diseases have been discovered with which living organisms are as closely and as indissolubly associated as the growth of Torula is with the fermentation of beer. . . .

"We have been scourged by invisible thongs, attacked from impenetrable ambuscades, and it is only today that the light of science is being let in upon the murderous dominion of our foes. Facts like these excite in one the thought that the rule and governance of this universe are different from what we in our youth supposed them to be; that the inscrutable Power, at once terrible and beneficent, in whom we live and move and have our being and our end, is to be propitiated by means different from those usually resorted to. The first requisite towards such propitiation is *knowledge;* the second is *action* shaped and illuminated by that knowledge. *C. M. H.*

PUBLIC HEALTH NOTES

Abstracts by D. Greenberg, M. P. Horowitz and Mayo Tolman.

Correction.—Mr. David Greenberg calls attention to a misstatement in one of his notes in the March Journal, page 227. At present the text reads "approximately 85 per cent of the men entering the Army were already infected." The phrase should read, "85 per cent of the venereal disease of the Army is contracted before enlistment."

Dr. W. T. Sedgwick, of Boston, has recently been elected into membership in the International Health Board of the Rockefeller Foundation, and also appointed directing sanitary engineer with the grade of assistant surgeon general in the Reserve of the United States Public Health Service. Dr. Sedgwick has gone from Boston for a four months' trip through the West and will be settled for a while in California, where he is to conduct a course in Sanitary Science and Public Health during the summer session of the University at Berkeley.

Meetings of Associations.

American Public Health Association, New Orleans, La., October 27–30, 1919. Take notice of the change of date.

For some time past it has been the desire of the the Journal to present a schedule of the future meetings of state associations or conferences of local health officials with the state boards, and notes were accordingly addressed to all the states requesting information. The list is at present fragmentary, but is set forth for what value it may possess.

In April there was on the 22nd and 23rd the second annual meeting of local and state authorities, of Maine and similar conferences came earlier in the month for the states of Virginia, North Carolina and South Carolina. For the rest of the year the meetings that are regularly scheduled are the following:

May,	Indiana, May 6
	Texas, May 14 at Waco, to organize
	Kansas, in the second week
	Oregon, date not selected
June,	Rhode Island
July,	Nova Scotia, in the second week
August,	Florida, August 10
	Texas, date not set
September,	Quebec
	Iowa
October,	Illinois, 7–9
	California
	Minnesota

In 1920 Wisconsin will hold its regular meeting of the kind. South Dakota, Ohio and Tennessee are recorded as having no such conference; ten other states have no date fixed as yet, while about a dozen have not as yet made reply.

Other Associations of National Character.

Other Associations of National Character have announced meetings on these dates:

American Water Works Association, Buffalo, N. Y., June 9–13.

American Medical Association, Atlantic City, N. J., June 9–13.

American Academy of Medicine, Atlantic City, N. J., June 9–10.

American Medical Editors' Association, Golden Jubilee, Atlantic City, N. J., June 9–10.

National Tuberculosis Association, Atlantic City, N. J., June 9–10.

L. G. B. Medical Officer Appointed.—Sir George Newman, K. C. B., M. D., F. R. C. P., has been appointed principal medical officer of the

Local Government Board. This post is a new one, and the holder will have the status of secretary of the board, and will have the administrative responsibilities in respect to the work of his department.—*Medical Officer*, Feb. 22, 1919, 60. (*D. G.*)

✠

Railway Transportation of Garbage.—The city of Cincinnati employs a rather novel type of garbage collection system, utilizing railway transportation and a so-called "wagon box" for this purpose. The box in which the garbage is emptied from the street cans is about the length of the wagon and has a cover made up of four segments. It is not attached to the wagon body but only rests thereon and after being filled is lifted by a crane to a flat car and run down to the reduction plant at night. The full box is replaced by an empty one and the wagon drives on its rounds. The lids of the boxes, being built in four sections, minimize the escape of odors during the collection of the garbage.—F. J. Koch, *American City*, XX, March, 1919, 231. (*D. G.*)

✠

Treatment of Sewage from Single Houses and Small Communities.—This problem is always a difficult one to solve. Professor E. B. Phelps, formerly of the U. S. Public Health Service, describes a method of treatment which apparently solves the problem. The cost is estimated at $250 for a plant large enough to handle the sewage from 10 persons. Expert supervision is not necessary, and inspections need be very infrequent. The best plan consists in the use of a preliminary Imhoff tank, followed by treatment on a lath filter and subsequently by secondary Imhoff tank treatment. The effluent is sufficiently purified to be discharged without danger to the public health or of creating a nuisance. If the effluent is to be discharged into a water supply, terminal disinfection is recommended. The filter should be large enough in volume to furnish 8 cubic feet per capita. The Imhoff tank sludge need only be removed once, or at most twice, a year. Experiments with sand filters and regular trickling filters have also been tried with good success. The lath filter, however, gives much better results than the trickling filter. The article gives complete details for the construction of such a plant.—*Public Health Reports*, Feb. 14, 1919. (*M. P. H.*)

✠

Effects of Dust Inhalation.—The experiments reported by the author were made with the object of throwing light on the dangers arising from dust inhalations in mining and many other forms of industrial work, and on the conditions under which precautions against dust inhalations are specially necessary. The results of the investigation show:—

(1) Dusts that are harmful are dusts that accumulate in the lungs. Thus while coal dust and shale dust readily enter the lung they do not produce (under moderate exposure) permanent lesions, because they are quickly eliminated. Crystalline silica and flue dust (a dust of angular character) are not eliminated with such readiness from the lungs.

(2) Dusts that are eliminated are dusts that produce a marked initial reaction with much shedding of epithelium. Thus coal and shale are taken up by cells which are quickly shed and consequently do not set up processes which block lymphatics.

(3) Dusts that accumulate do not produce so marked an initial reaction, there being much less shedding of epithelium. Thus crystalline silica and flue dust are taken up by cells which tend to remain *in situ* and form plaques which appear early and persist. Dusts which form plaques are not readily eliminated.

(4) Dusts that produce an initial reaction tend to carry out with them the more inert. Thus if silica is inhaled in small quantities together with coal the lungs practically free themselves from the silica because the coal provokes a reaction in the lung with shedding of epithelium and expectoration of debris.—A. Mavrogordato, *Jour. of Hygiene*, XVII, Oct., 1918, 439. (*D. G.*)

✠

Outbreak of Food Poisoning.—An outbreak of food poisoning at Royal Sussex County Hospital in November, 1917, in which twenty-eight persons were affected showed several features of unusual interest. The outbreak was due to infection by a Gærtner group bacillus, allied to but not identical with *B. enteritidis*, and the vehicle by which the bacillus was conveyed was fish eaten after frying. Investigation showed that the frying was done hurriedly and the haste may have prevented the destruction of all the bacilli. In searching for the means whereby the fish became infected, all the available evidence strongly suggested a kitchen maid at the Hospital as being the source. She was the one person who handled the fish and in whose excreta was found a bacillus identical in all particulars with the bacillus causing the outbreak.—W. G. Savage and D. Forbes, *Jour. of Hygiene*, XVII, Oct., 1918, 460. (*D. G.*)

✠

Overcrowding and Meningococcus Carriers.—The connection of overcrowding and disease is strikingly brought out by the observations made by the author on the relation of density of population in sleeping quarters to the number of menigococcus carriers. A high menigococcus carrier-rate in a military unit denotes that dangerous overcrowding exists in this unit. A carrier-rate of 20 per cent (a

standard adopted for military necessity) is to be regarded as a signal for prompt and effective action to abolish overcrowding, improve ventilation, and to increase the distance between beds to at least 2½ feet. This spacing out of beds combined with improvements in the ventilation are highly efficient in reducing high carrier-rates.—J. A. Glover, *Jour. of Hygiene*, XVII, Oct., 1918, 367. (*D. G.*)

✽

Anti-Influenza Measures.—Sir Arthur Newsholme in an address before the Royal Institute of Public Health emphasized the importance of publicity in combating influenza. A very important suggestion made by him is that in the future a modified face mask should be worn which will protect the eyes, as well as the nose and mouth, against droplet infection. In any future epidemic it would be desirable to organize teams of doctors and nurses to go from one area to another.—*Medical Officer*, Feb. 15, 1919, 50. (*D. G.*)

✽

Vaccines and Whooping-Cough.—No active case of whooping-cough has developed in a single instance where the prophylactic administration of the vaccine had been given, some in one series now having passed two years. The vaccine used is a mixed one, and large doses are given—5,000,000,000 at one time—which is repeated on alternate days until three doses have been given. The author has also had success with the vaccine used therapeutically, for he finds that giving the vaccine reduces the duration of the disease, decreases the intensity of the illness, and prevents complications and sequelæ.—C. J. Bloom, *Arch. of Pediatrics*, Jan., 1919, 1. (*D. G.*)

✽

Does Tuberculosis Protect against Influenza.—In an article entitled "Influenza, Is It a Hazard to be Healthy?" the author gives the experience of Framingham, Mass., during the influenza epidemic. He found that whereas about 16 per cent of the entire population was infected, only 4 per cent of the tuberculous group in the community was infected. Furthermore there was reported approximately four times as much influenza and pneumonia among the Italians as for the rest of the community, made up in large part of Irish and Irish-American stock. The incidence of tuberculosis among the Italians in this community was 0.48 per cent in contrast to an incidence among Irish stock of 4.85 per cent. The author points out that these are only tentative considerations, since these findings are based on comparatively small numbers and incomplete returns, but that they are worthy of further study.—D. B. Armstrong, *Bost. Med. & Surg. Jour.*, Jan. 16, 1919, 65. (*D. G.*)

✽

Connecticut's Baby Special Automobile.—The state of Connecticut is to the fore in modern health appliances. Here is presented the picture of the automobile equipped for the weighing and measuring of infants and the distribution of literature. This work has been under the care and supervision of Miss Margaret Stack, director of the Bureau of Child Hygiene of the State Department of Health.

This is really opening a new door in public health administration, which may lead to benefits not yet possible of estimation. Already the principle of a moving hospital or dispensary for civil use has been established in the Philippines by the International Health Board with its steamer. Already the suggestion has been made that a similar plan would be of benefit to rural districts which are distant from real hospitals and real dispensaries. Already the idea has been put practically into action by peripatetic dentists in connection with school work, and already the city of Cleveland has had a motor vehicle for health work, but these are only the beginning. One can see at once the advantages of the motor dispensary. It can carry to regions aloof from skilled practitioners many of the advantages of city concentration, it can carry men who are competent to deal with the problems of the country and it can be an instrument of the greatest good.

✽

Change your "tickler" to "October 27–30, New Orleans."

Dr. Alice Hamilton Lectures on Industrial Diseases.—The Department of Preventive Medicine and Hygiene of the Harvard Medical School is enabled to give, once a year, a series of special lectures on some timely subject dealing with preventive medicine. These lectures are called the Cutter Lectures. This year, Dr. Alice Hamilton, who has been appointed Assistant Professor in Industrial Hygiene at the School, was asked to give the lectures. They were devoted to lead poisoning, poisoning from other metals, and poisonings from coal tar products and other organic compounds. (*M. P. H.*)

✱

Diet for the School Child.—A very effective booklet, artistically prepared, has been issued by the Child Health Organization (156 5th Ave., New York) for popular use. This booklet contains sections on good food habits; the nature of the child's food; planning the meals, and sample summer and winter diets for school children. (*D. G.*)

✱

Municipal Maternity Hospital.—The provision made for infant welfare work at Portsmouth, England (where the infant mortality rate has been markedly reduced) includes a lady medical officer (part time) and five health visitors who work from four maternity centers. Dr. Fraser, the health officer, advises that the most desirable extension of the work is the establishment of a maternity hospital. In connection with such hospital there should be a clinic where expectant mothers can receive advice. A babies' ward is suggested for the treatment of babies who owing to the death of their mothers, poverty and other causes, are in need of more skilled medical treatment and nursing than can be provided at home. A valuable adjunct to such an institution would be a home for the babies of widows, deserted, and unmarried mothers.—*Medical Officer*, Feb. 15, 1919, 51. (*D. G.*)

✱

Lake George Health District.—Another step toward coöperative health work was taken when the Lake George Health District was organized. The towns of Hague, Bolton, Caldwell, the village of Lake George, and parts of the towns of Queensbury, Fort Ann, Dresden, Putnam and Ticonderoga, have all united into one health district. There will be one board of health consisting of three members. The purpose of the plan is to improve the health service throughout the district surrounding Lake George, N. Y. Dr. Minna Mary Rohn has been appointed health officer of the district. Dr. Rohn is an experienced health worker, having had her training at the University of Michigan and at the Harvard-Technology School of Public Health. The position was filled as a result of a competitive examination. (*M. P. H.*)

✱

Public Health Centers.—In *Health News* for February, 1919, the New York State Health Department discusses the various phases of public health centers. James D. Burt outlines the program for one which should be housed in a three story building which, being large and comfortable, offers plenty of opportunity for privacy. The first floor should have a large assembly hall, with motion machine equipment, a mental health clinic, toilets and boiler room. The second floor should have the main offices, the venereal and skin disease clinic, the dental and eye clinic, the tuberculosis clinic, a waiting room for men, a waiting room for women, and a registration room. The third floor should have a laboratory, a child welfare clinic, two wards for transient cases, a room for supplies, two bath rooms, a nurse's room and a diet kitchen. The center need not be housed in a special, new building if funds for that purpose are not available. Usually some old building can be found which will serve the purpose. It is important to aid the patients in keeping their privacy as much as possible. (*M. P. H.*)

✱

Anthropometry and National Health.—The results of the survey made by medical boards of England in examining men to determine their fitness for military service are very striking. Men were divided into four groups or grades, I, II, III, IV, according to their physical fitness. On theoretical as well as practical grounds the Anthropological Survey Committee have come to the conclusion that if a population is healthy, a random thousand of its young men between the ages of 20 and 31 should yield 700 of Grade I—men fit to sustain the strain of field service; 200 of Grade II—men fit for the less strenuous forms of military service; 75 of Grade III—men unfit for any form of active physical employment, and 25 of Grade IV—men who are totally unfit from a medical or physical point of view. At the present time many industrial towns send up samples of a thousand men who, when graded, give results somewhat as follows: Grade I, 190; Grade II, 270; Grade III, 410; Grade IV, 130. Such findings indicate that the wear and tear of industrial conditions and the conditions of modern life exhaust the health and strength of the body. These findings point out the fact that in the future if we are to reduce this degradation we must look to the fitness rate, or sickness rate and growth rate of children as well as to the birth-rate and death-rate, as indices of the health of the nation.—A. Keith, *Jour. of State Med.*, Feb., 1919, 33. (*D. G.*)

STATE HEALTH NOTES—LEGISLATION

The following items will serve to indicate the activity in such work:

Illinois.—House Bill 42 authorizes municipal officers to make an appropriation in excess of the annual budget to meet the expense of epidemics, and to borrow money for this purpose.

House Bill 57 provides for the licensure of women as dental hygienists after a one year course in a recognized dental school, such persons being authorized to clean teeth under the direction of a dentist.

House Bill 67 requires physical examination for the detection of venereal disease as a prerequisite to marriage license.

House Bill 102 provides for the medical inspection of school children at the cost of school authorities; requires examination of sanitary condition of school and surroundings. Prohibits tuberculous teachers, pupils or employees in or about any school, except open-air or open-window schools under the direction of the State Department of Public Health.

House Bill 147 amends the County Tuberculosis Sanitarium law to permit counties to unite to create district sanitaria.

House Bill 151 regulates the practice of nursing and prohibits any person except a full registered nurse to engage in public health nursing.

House Bill 155 provides a program for the betterment of living and health conditions for negroes.

House Bill 353 provides for the maintenance of laboratories for the purpose of research as to the cause, cure and prevention of any disease or deficiency whose victims are the charges of the state.

Senate Bill 7 provides for the physical training of school children and the employment of physical instructors for each school or group of schools.

Senate Bill 82 provides for a maternity fund to be expended by the county for the medical care of mother and child for a period of one year after child birth. Similar to the Mothers' Pension Act.

Senate Bill 165 provides for a state housing code.

Senate Bill 353 permits counties and cities to segregate and treat persons suffering from venereal diseases and to provide hospital care for same. All persons charged with crime may be sent to institutions by the court, for examination or treatment.

*

Indiana.—The legislature before it adjourned in March created four new divisions in the State Board of Health: tuberculosis, with an appropriation of $10,000 a year; infant and child hygiene, $10,000; rural hygiene, $25,000; and division of venereal diseases, $29,366.20, a sum equal to that appropriated to Indiana by the United States. The legislature granted to the Laboratory of Hygiene $2,000 in addition to the usual annual appropriation, and also appropriated $5,000 to publish the Indiana Mother's Baby Book.

*

Iowa.—The Act looking to the prevention of blindness from ophthalmia neonatorum, which passed the Senate, was lost in the House by two votes. The bill received an amendment with reference to the consent of parents which apparently led to its defeat.

*

Maine.—Through the action of the recent legislature the State Department of Health will have available in 1920 $87,000 a year for the work of the department, compared with $34,000 during the last few years, and $20,000 during the year 1916. This increase in appropriation is a good index of the possibilities for the extension of the work of the state department in Maine. The new legislation also includes more centralized authority for the state department, in controling the work of the local boards of health, and permits of the extension of the district health officer plan. It provides also for the union of towns for the employment of a full-time health officer and for all individual towns, or coöperative groups of towns, financial assistance from the state up to $800 a year is available for the employment of full-time trained health officers. A bill introduced by the state superintendent of schools with reference to the medical inspection of schools was indefinitely postponed. Another bill, introduced by the department of health, calling for more power to examine persons having certain communicable diseases, was also indefinitely postponed.

*

Michigan.—Till now the state of Michigan has been without adequate public health statutes. There is a bill now before the General Assembly, which at the present time seems to have a fair chance of passage, by which the State Board of Health will be given control of the public health of the state and with it a bill which provides for county health officers. There is also a venereal disease bill and in the event of its passage Michigan will be able to share in the funds appropriated under the Chamberlain-Kahn bill, the state appropriation asked for being $150,000.

*

Missouri.—A bill is now before the General Assembly, which to date seems to have a fair chance of passage, and by which, if passed, the State Board of Health will be given control of the public health of the state. There is also before the

legislature a venereal disease bill, by which in the event of its passage this state will be able to share in the funds appropriated by the Chamberlain-Kahn bill, and meet the requirements of the Inter-Departmental Board.

*

New Hampshire.—In the legislature a bill has recently been defeated which sought to establish compulsory medical inspection in schools which is now optional. Under existing conditions school authorities may if they wish have this inspection of school children. The defeated bill was introduced by the Board of Education. There is pending in the legislature a bill to allow the state to have county public health nurses, a bill to prohibit prostitution and the spread of venereal disease, together with the usual appropriation bills.

*

New Jersey.—The state budget authorized this month increases the appropriation for child hygiene from $25,000, its initial figure last year, to $125,000. An appropriation of $75,000 was also made as a part of the United States Public Health Service program for combating venereal disease. For the rehabilitation of the injured an appropriation was made of $55,000.

*

New Mexico.—This state has passed through both branches of the legislature a modern health law, giving broad administrative powers to the state board and the health commissioner, and ample machinery for effective health, sanitary, quarantine and statistical work. It gives the health board power to inspect and regulate as to purity the milk, meat and food supplies. There is to be a board of three members, only one of whom must be a physician. The health commissioner may or may not be a physician, but must have experience and special training. The salary is $3,000 a year, with a general appropriation of $8,000 for the present year, to be increased to $12,000 in future years. County and municipal health officers are still appointed by the local authorities, but such appointments are to be subject to approval or rejection by the state board. Rigid qualifications are provided for physicians employed by the department. A system of reporting is embodied in the bill, the rights of the individual to select the physician or mode of treatment are protected, and penalties are provided for violations of the law or of the health regulations.

The Senate has passed an act to establish a child welfare service for the state of New Mexico. The board created consists of six members and has authority to choose a director of child welfare, who is to have his office in the department of education.

*

Oklahoma.—The last official act of the seventh legislature of Oklahoma, recently adjourned, was to pass a sanatorium bill. This is one which has been supported by the Oklahoma Tuberculosis Association. It provides for two sanatoria for white persons and one for negroes. The appropriation for the former is $200,000 and for the latter $50,000, with an additional $100,000 for maintenance during the coming two years. The same bill provides for a Bureau of Tuberculosis in the State Department of Health, the chief of which is to receive a salary of $3,000 a year. Every county is authorized to levy a special tax of not more than one mill for a tuberculosis fund. This is to care for the larger part of the cost of maintenance of the sanatoria. The superintendent of each district sanatorium is authorized to establish tuberculosis dispensaries within his district and to employ at least one public health nurse on his staff. It is the beginning in Oklahoma of tuberculosis dispensaries and public health nursing.

*

Ohio.—The most important public health measure to come before the Ohio general assembly at its present session is the Hughes health district bill, reorganizing local health administration, which has been passed by the House and has gone to the Senate public health committee. This bill establishes each city of 25,000 or greater population as a municipal health district and the territory in each county outside such cities as a general health district, each district being required to employ a whole-time health commissioner and at least one nurse and one clerk. Provision is made for the continuance of a city of from 10,000 to 25,000 as a municipal district under special order of the state commissioner of health, and for voluntary union of two general districts or a general and a municipal district. A state subsidy of one-third the amount paid as salary to the three required employees, with a maximum subsidy of $2,000 a year, is provided. Appointments are to be made from civil service eligible lists. A budget system of finance is established for the districts, with expenditures of general districts apportioned among participating municipalities and townships on a basis of population. The new organization, if adopted, will replace a system under which each city, village and township constitutes a separate health district—making more than 2,100 districts in all, only a half-dozen of which employ full-time health officers.

By a bill passed as an emergency measure, and

thereby already in effect, local boards of health in Ohio are authorized to employ public health nurses. Lack of such authority, heretofore, has made it necessary for local nursing service to be maintained by private funds.

The state commissioner of health is given power to "define and classify" hospitals and to require annual reports from them, by the terms of another bill which has been enacted into law.

Establishment, by court action following a hearing upon a petition of freeholders, of sanitary districts comprising parts or all of different local political units, to bring about united action of communities to solve common problems of stream pollution, sewage disposal or water supply, is authorized by a bill which has passed the Senate and has gone to the House. This legislation is especially needed at present in the thickly populated lower Mahoning valley—the Youngstown region.

Another bill of importance from a sanitary engineering viewpoint, passed by the Senate, will wipe out the necessity for a popular vote on bond issues necessary to carry out sanitary improvements ordered by the State Department of Health.

Summit county is expected to take action soon under a bill which has been passed permitting a county which holds membership in an inter-county district tuberculosis hospital, to establish a county sanatorium also, if the district hospital's facilities are deemed inadequate.

Two school health supervision bills are pending, one making the establishment of such a system optional with local school authorities and the other making this action compulsory, by providing that state financial aid shall be withheld from districts which fail to comply.

A bill establishing a penalty for failure to report occupational diseases puts teeth into a law which physicians are now to a large extent disregarding.

More rigid regulation of prostitution, with penalties for men on the same basis as for women, is provided by another bill.

A measure for the sterilization of defectives, identical with a bill which has been killed at previous sessions, has been introduced.

*

Wisconsin.—The state legislature passed, in record time, the State Board of Health appropriation bill for two years, carrying $50,000 annually for administration (an increase of $15,000), and $25,000 annually for venereal disease prevention work.

A measure to require every county in Wisconsin to maintain a public health nurse has been advanced in the lower house of the legislature. As amended in committee it makes appointive for the position public health graduate nurses or public health instructors, either of whom may be certified by the committee of examiners named in the bill. Many state and civic organizations advocated the measure.

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GENERAL NOTES OF STATE HEALTH WORK

Illinois.—About seventy cases of lethargic encephalitis have been reported during the past few weeks. Dr. S. S. Winner, district health officer of the state department, has been assigned to the study of the clinical and pathological findings of each case.

Within the past two years forty county tuberculosis sanatoria have been created in Illinois. The measure was carried in thirty-three counties at the elections in November, 1918. The LaSalle County Sanatorium and the Peoria Municipal Sanatorium have been opened, and the Adams County, Morgan County and McLean County Sanatoria are nearing completion. Each county sanatorium will have a free tuberculosis dispensary and visiting nurse service connected with it.

The LaSalle County Tuberculosis Sanatorium, the first of forty county sanatoria created in Illinois during the past two years, was recently dedicated at Ottawa. The principal speakers were Dr. David R. Lyman of Wallingford, Connecticut, president of the National Tuberculosis Association, and Dr. C. St. Clair Drake, director of the Department of Public Health. Over thirty-five hundred persons inspected the building during the day. Under the Illinois County Tuberculosis Sanatorium Law, the county institutions are free for rich and poor alike, and have connected with them free tuberculosis dispensaries and visiting nursing service financed through a special tax.

The Indiana State Board of Health was reorganized according to law April 9, by the election of Hugh A. Cowing of Muncie as president and Dr. John H. Hewett of Terre Haute for vice-president, to serve for two years. Dr. Hurty was elected as secretary to serve for four years. This will be the seventh term served by Dr. Hurty.

The Venereal Division of the Indiana State Board of Health has been organized, with William F. King as director, and E. C. Helwig assistant. Five clinics have been established in the following cities: Indianapolis, Muncie, Anderson, Evansville, and East Chicago. Each clinic has its superintendent and nurse. There are eight inspectors for the state, two investigators for Indianapolis, and fifteen public lecturers for the division.

Kansas.—The annual school of Kansas state health officers will be held the week beginning May 12 to the 17th at the School of Medicine of the University of Kansas, Rosedale.

Venereal disease clinics have been established at Rosedale, Leavenworth and El Dorado, and preparations for opening venereal disease clinics are under way at Wichita, Pittsburg, Lawrence and Topeka.

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Louisiana.—Captain H. F. Smith formerly director of health, Alexandria and Rapides Parish, has been detailed to look into cases of encephalitis lethargica. Dr. Smith will make his first trip through Louisiana. The unit Rapides Parish under the U. S. Public Health Service has been transferred to the Louisiana State Board of Health. Dr. C. M. Abbott is director. Mr. J. H. O'Neill, sanitary engineer, Louisiana State Board of Health, will direct the soil pollution and malaria. Dr. J. P. Lobenhoffer is in charge of the laboratory. Dr. Mayer Newhauser has been made medical director. Two nurses are to be employed to take the place of the Red Cross nurses whose time expired April 1.

Dr. William Edler, scientific assistant, U. S. Public Health Service, has been "loaned" to the Louisiana State Board of Health for special work in connection with the venereal disease campaign.

Sergeant T. M. Pierce, Camp McArthur, Texas, has been appointed for duty in the Louisiana Division of Venereal Diseases.

Dr. W. H. Seeman (Captain), bacteriologist, Mr. J. H. O'Neill (Captain), sanitary engineer, and Mr. Hugo Fritsch (Private), have returned from war duty.

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Maryland.—Cumberland has attracted the attention of health officers and the general public by its bulletins. A little review of the work of the city has come to the *Journal* from Dr. Max Colton, health officer. In sending in a new member Dr. Colton makes note that four years ago when he assumed his duties at Cumberland the appropriation was $4,000, for 1919 $10,000 and perhaps more will be available. In addition there are coöperative relationships between the city, county and state, whereby certain functions are cared for by all three, the bacteriological laboratory, for example. Cumberland has a venereal disease clinic.

⚜

Massachusetts.—A sub-division of Public Health Nursing has been created within the division of Hygiene. This will include the health instructor nurses of the division of Hygiene. Miss Blanche Wildes, one of the present health instructors, has been appointed chief of this sub-division.

Dr. Edwin N. Kent of Boston has been appointed supervisor of mouth hygiene in the division of Hygiene. Dr. Kent is now president of the Dental Hygiene Council of Massachusetts. His work for the present will have to do with the preparation of educational material on mouth hygiene and gathering and correlating information regarding dental dispensaries in the state.

Miss Bernice W. Billings, for the past year chief of the sub-division of Tuberculosis in the division of Communicable Diseases, has resigned to accept a position as executive secretary of the Oneida County Tuberculosis Committee, New York.

Dr. Hugh Cabot of Boston has been appointed director of clinics in the sub-division of Venereal Diseases of the Massachusetts State Department of Health. His efforts will be directed towards the standardization of work in the sixteen state approved venereal clinics and toward familiarizing the physicians of the state with the opportunities for expert treatment and advice to be found in them.

⚜

New Jersey.—In order to bring to a climax the activities of New Jersey along the lines of infant welfare, as these were conducted during Children's year, and to concentrate the interest of the workers of the state upon certain definite and fundamental tasks, Dr. Julius Levy, director of the Bureau of Child Hygiene, has named the week of May 17 to 24 as Baby Week, and has offered to the Child Welfare Committee of the Council of National Defense, a specific program of work.

Visiting in connection with birth registration will be done by the local committee of the Council of National Defense. Each mother whose baby's birth was recorded in 1918, or who will attend to the duty of having it recorded, will receive from the state a birth certificate. During this week each municipality whose infant mortality rate is below 100 will be given a banner as a mark of honor, and a chevron will be added for every 10 points below 100. The banner will be made up in the state colors, buff and blue, and will bear the state seal.

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New York City.—There has been a special effort to reduce the development of diphtheria and to increase the number of persons immunized. Posters have been used and coöperation sought of the education authorities, public, private and parochial. There has been a recent revision of the milk regulations of the city in order to permit the sale of milk products and milk formerly excluded, and in order to aid in conservation generally of food. In response to the call of the Federal authorities, investigations were made to determine whether the spores of anthrax could be found in the bristles used in manufacturing shaving brushes. Three

cases of anthrax have been reported, all of them with fatal terminations. The Department of Health has required all manufacturers to have their bristles disinfected. Influenza is reported on the wane, and the department is continuing careful supervision of the cases and is giving attention to after care of the convalescent. Sixteen cases of lethargic encephalitis have been reported in the city, the commissioner of health having requested all physicians to report such cases.

Especial attention is being given by the New York department in coöperation with the Committee of Physicians and contemplates setting apart a ward for the treatment of drug addicts who voluntarily submit themselves for treatment. The department made some time ago, December 21, 1918, a classification of milk, which included fifteen varieties of milk and milk products, and adopted a resolution with reference to them as an amendment to the sanitary code.

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New York State.—Forty-one health officers and physicians have registered for the post-graduate course in infectious diseases and public health which is being given by the Albany Medical College and the State Department of Health.

As a result of the tuberculosis survey recently held in Clinton county, the Board of Supervisors have appropriated $1,200 and the necessary traveling expenses for a county tuberculosis nurse, for one year.

Immediately following the tuberculosis survey in Clinton county, four persons made application to the county superintendent of poor, for care at Ray Brook or at a county tuberculosis hospital.

A four weeks' course is under way in community health nursing, given at the University of Buffalo through its coöperation with several other agencies, namely,—the New York State Department, the Rochester Health Bureau, the Rochester Tuberculosis Association, and the Monroe County Tuberculosis Association.

The Dutchess County Health Association (N. Y.) is making use of Vassar College students for health education of school children. The students who are taking the course in public speaking are sent out to the county schools to give talks on health subjects. Usually three girls will go to a school on Friday afternoon and occupy a half hour between them. The girl who talks on teeth goes armed with a tooth brush. The girl who speaks on posture takes fresh sheep's lungs and blows them up, much to the interest of the children. The girl on ventilation takes tubes of lime water and lets the children blow into them and watch the clear lime water turn milky showing that the air breathed out is different from air breathed in, etc.

✦

North Carolina.—The officials of Vance county have made provision for the organization and conduct of a full-time county health department. The work has been arranged through the coöperation of the county with the state and international health boards and a three-year plan of work has been agreed upon. A health officer will be selected in the near future to take charge of the department, the offices of which will be located at Henderson.

Vance will be one of nine counties in which the State Board of Health is assisting in health work, the other counties being Forsyth, Davidson, Lenoir, Nash, Northampton, Pitt, Robeson, Rowan, and Wilson.

In accordance with the appeal of the A. P. H. A. through its president, Dr. Frankel, the North Carolina Board is urging every person who had the influenza to go to a physician and be thoroughly examined, in order to find out if any injury has been done to his vital organs by the disease.

North Carolina has already begun to assume her responsibility to her soldiers, sailors and private citizens as regards venereal diseases. The State Board of Health is waging an active campaign for the eradication of this great health menace by endeavoring to inform and educate as far as possible every citizen as to the nature and danger of the disease and by suppressing the prostitute and the near prostitute. By its efforts, several of her larger towns have appropriated funds for establishing venereal disease clinics. The citizens of Asheville have voted to establish a free clinic and have purposefully set about to make their town a safe home for all their people as well as for the returning soldiers and sailors. Wilmington has also appropriated funds for a free venereal disease clinic, and it is understood that Greensboro and Winston-Salem will do so in the near future.

It is interesting to know that business men are beginning to realize that people who do not take care to keep themselves or their families well are not as safe to have financial dealings with as citizens who protect their health. Dr. L. J. Smith, health officer of Wilson county, has interested the leading banks and tobacco warehouses of his county as to the importance of dealing only with people who have safeguarded their health. Whenever a man applies to one of these institutions for a loan he is asked if he has a sanitary privy at his home and if his family has been vaccinated against typhoid fever. This is a sound business precaution which should be more widely adopted.

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Have you added your member?

Ohio.—Approximately two thirds of the Ohio men discharged from the army or rejected by draft boards because of tuberculosis are receiving attention from local public health nurses of the state, according to an estimate of the state department of health today. The other one third live in communities which do not maintain nursing service and are consequently without such care. Of 1,958 rejected and discharged tuberculosis victims reported to date to the health authorities, 1,272 live in nursing jurisdictions and 686 live outside such areas. Any local board of health in Ohio has authority to employ a public health nurse. Any county can establish a tuberculosis dispensary or join other counties in establishing a district tuberculosis hospital. Any municipality can establish its own tuberculosis hospital.

March was a banner month for the laboratories of the state department of health. More chemical and bacteriological examinations were made than in any previous month. The March total was 2,821 examinations, according to the monthly report given out today. Wassermann examinations for the diagnosis of suspected cases of syphilis are chiefly responsible for the increase. Of the 2,266 bacteriological examinations included in the March total 1,391 were Wassermanns. Examinations for other diseases included: Tuberculosis 391, typhoid 34, diphtheria 277, gonorrhea 94, rabies 19.

Childhood epidemic diseases are on the increase in Ohio with the coming spring. Statistics on contagious disease cases reported to the state department of health show an increase.

The bureau of venereal diseases of the state department of health, maintained in coöperation with the U. S. Public Health Service, has established clinics in fifteen cities and is carrying on an extensive educational campaign, employing literature, lectures, exhibits and motion pictures. A slight influenza recurrence, marked by a fatality rate higher than in recent previous months but not approaching in extent the fall outbreak, occurred in Ohio in March. Through hospital care for eighteen cases of ophthalmia neonatorum, provided by the state department of health in 1918, the sight of sixteen eyes was saved at an average cost of $16 each. Several cases of lethargic encephalitis were reported from various parts of the state during late March and early April, but no marked outbreaks were noted during that period.

The city of Salem, Ohio, according to a report just compiled, by providing free antitoxin for all diphtheria cases, reduced its diphtheria deaths from 48 in the ten years immediately preceding 1900 to one in the ten years following 1900. The free antitoxin system went into effect in 1900.

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Oklahoma.—Dr. A. R. Lewis of Ryan, Okla., has been appointed state commissioner of health for Oklahoma by the governor. The sanitary survey of the state is to be resumed in May and for the work Murray P. Horowitz, B. S., instructor in the Massachusetts Institute of Technology, has again been delegated to coöperate with the Oklahoma Tuberculosis Association and other state and municipal agencies.

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Wisconsin.—Dr. William L. Holt, full-time health officer of Beloit, Wis., resigned April 7 to remove to California because of illness of two of his children. He served little more than a year, but placed the health department upon a fully organized, full-time basis.

The Racine Public Health Council completed its organization by electing a full set of committees and officers, with William Harvey as president. Dr. C. A. Harper, state health officer, delivered an address at the final organization meeting. He advocated health department appropriations equalling those for fire and police protection, and urged school inspection and more coöperation with organized health agencies.

Influenza in March attained epidemic proportions in Wisconsin for the third time in six months. Many communities were severely striken, notably Madison, the capital, where restrictions upon public assemblages were again ordered. The death-rate was comparatively high.

Twenty-nine suicides in Milwaukee in the first three months of the year prompted the county coroner to ask the legislature for passage of a bill prohibiting the indiscriminate sale of carbolic acid, lysol, and other phenol products and by-products. His measure provides that no person shall sell more than a 3 per cent solution of these products without a physician's prescription.

Dr. James R. Bean of Philadelphia has been appointed full-time health commissioner of Oshkosh, Wis., and director of the state coöperative laboratory of hygiene there, succeeding Dr. A. H. Broche, resigned. The new commissioner is a graduate of the University of Pennsylvania (1911), and has served as bacteriologist for the Florida State Board of Health. He also spent fifteen months as an officer in the medical corps of the American forces in France.

Milwaukee, with an estimated population exceeding 500,000, had only twenty-five typhoid deaths in 1918.

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Remember it is now, "New Orleans, October 27-30!"

INDUSTRIAL HYGIENE AND OCCUPATIONAL DISEASE

Abstracted by Drs. E. R. Hayhurst, R. P. Albaugh and P. M. Holmes.

Limitations of Occupational Disease Compensation.—There are three methods by which occupational diseases may be brought under workmen's compensation laws: First—List from half to two dozen occupational diseases. This is the British method adopted in 1906. The list has not been extended beyond twenty-four afflictions, most of which rarely occur, and the compensation received by sick workmen has been insignificant. In 1913, the latest year for which figures are available, the number of cases compensated was 1.7 per cent as large as the number of accidents, and the compensation paid was only 4.5 per cent of that paid for accidents. Second—The compensation law should include "occupational diseases," and leave the matter of determining what are occupational diseases to an administrative commission. Neither Congress nor state legislatures find this practicable. They wish a definition of occupational diseases, and as yet no one has been willing and able to make a definition that is workable for this legislative purpose. Third—Amend compensation laws by striking out all reference to accident and by inserting instead the term "personal injuries." Congress finally adopted this method as a compromise for the federal civilian employees, and during the first ten months only seventy cases of occupational disease disability were reported to the United States Employees' Compensation Commission. Massachusetts has given this method a trial since 1911, but of 135,257 personal injuries reported only 2,029, or 1.5 per cent, were reports of occupational disease, and in only 1,351 of these did the disability last more than one day; whereas Massachusetts pays no cash compensation except when disability lasts longer than fourteen days. California adopted this method in 1915, but in the year 1916-17, only 384 occupational disease claims were presented, the average lost time being eleven days and the total compensation paid about $4,000. It is significant that California and Massachusetts, the first two states to put occupational disease compensation to a practical test, have recognized the limitations of this form of protection, and were the first two states to create official commissions to prepare the way for workmen's health insurance. The difficulty is to prove that the disability is due to the nature of the employment and not to something else. The effective way to handle the matter is to cover all sickness regardless of its cause. There is danger in adopting workmen's compensation for these diseases in that the workers believe that they are getting something of great value, only to be keenly disappointed later. It is an excuse for delaying the movement for health insurance, which is to be of greater benefit to the workmen than accident compensation.—John B. Andrews, *American Labor Legislation Review*, Dec., 1918, pp. 311–15. (*E. R. H.*)

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Prevention of T. N. T. Poisoning.—Four hundred and two T. N. T. workers, thirty-six of whom were women, were examined in six plants by medical students working under the direction of The National Research Council. Plants were located in New Jersey, Virginia, Pennsylvania, and Wisconsin. Chemical and microscopic examinations were made, including the Webster test, which is described. Conclusions reached are as follows: (1) The skin is by far the most important channel of absorption. (2) The young are more susceptible than the fully grown. (3) There was apparently no difference between negroes and whites as regards susceptibility. (4) There is no indication that women are more susceptible than men. In order to compare their resistance, it would be necessary to study men and women working in the same occupation. The effect on offspring would also have to be considered. (5) Poisoning is much more common and severe in hot weather and the effect is increased by humidity. (6) Absorption takes place early during exposure, one-third experiencing effects before the expiration of a fortnight. (7) Most persons eliminate absorbed T. N. T. within a fortnight after complete removal from exposure. (8) Amatol was more readily absorbed than pure T. N. T. and dermatitis was more frequent in the plants where crude T. N. T. was handled. (9) The early symptoms are: short breath on exertion, dizziness on stooping over, headache, fatigue, loss of appetite, bad taste, morning nausea. The three elements in prevention of T. N. T. poisoning are: intelligent medical supervision, cleanliness of premises and cleanliness of person.—Alice Hamilton, *Monthly Labor Review*, Jan., 1919, p. 248. (*R. P. A.*)

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Dermatitis and Wound Infections from Cutting Oils.—The most important preventive measures include keeping the oils free from contamination, and personal hygiene. Sterilization by heat and disinfectants are of secondary importance. Susceptible persons should be transferred to other work. Further investigation and experimental work are

greatly needed. A bibliography is appended.—Anna Baker Yates, *Monthly Labor Review*, Jan., 1919, p. 273. (*R. P. A.*)

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Standards for Measuring Efficiency of Exhaust Systems in Polishing Shops.—The suction head in the duct of the exhaust system is the standard upon which present laws and regulations are now based. A more valuable standard from the sanitary standpoint would be based on actual velocity of exhaust at the point of dust production. More desirable still is a standard that rests upon the number or weight of dust particles actually contained in the air breathed by the worker. In experiments carried out in polishing shops, it was determined that a fall in suction head was at once followed by an increase of air dustiness. It is suggested, as a result of determinations made under varying conditions, that an average suction head of three inches should be maintained, when measured at a number of different points. A linear velocity of 2,500 feet per minute should be maintained at the throat of the exhaust duct. Proper relation should be maintained between static head and linear velocity. Case is cited in which a clogged screen reduced the velocity by one-half, the suction head remaining at least as high as when duct was unobstructed. Proper design of whole exhaust system will materially affect the results. In general, it is agreed with Lanza, Higgins, et al that "the most reasonable standard, then, appears to be one based on the quality of dust that will remain in suspension after the best known methods have been put into use for its abatement."—C. E. A. Winslow, L. Greenburg and H. C. Angermeyer, *Public Health Reports*, March 7, 1919, p. 427. (*R. P. A.*)

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Simple Tests of Physical Efficiency.—Tests for physical efficiency of the individual were made on healthy controls. In the six tests advocated, technique should be carried on in the same way on all occasions. The tests are as follows: (1) The response of the pulse to exercise. "Preferably the sitting rate of the pulse is first taken. The pulse-rate is then taken standing. If the rate is unsteady it should be counted in periods of 5 seconds until a steady rate is obtained. The candidate is then put through a regulated exercise, which should be carried out as follows: Standing before a chair, he places one foot upon the seat of the chair and steadily raises his whole body to the height of the seat five times in 15 seconds, one foot being retained on the chair throughout. The examiner should regulate the speed and rhythm in the following way: Standing beside the candidate, holding the wrist, with his fingers on the pulse, the examiner swings the arm forward and backward to indicate the time of raising and lowering the body. The subject still standing, the examiner then counts the pulse in 5-second intervals, and notes the acceleration and the time taken to return to the previous rate. In a good subject the increase of rate is about 20 and the time of return to normal 15 to 25 seconds. If the time of return exceeds 30 seconds it is suggestive of cardiovascular inefficiency." (2) The breath-holding test. The subject should hold the breath without any preliminary deep breaths. The patient's symptoms at the end have some significance. The average time is 69 seconds (minimum 45 seconds) and the sensations experienced "normal." The vital capacity averages 3800 c. cm., with a minimum of 3400 c. cm. (3) The third test is a combination of the two first ones. (4) The expiratory force is measured by blowing into a U tube manometer filled with mercury and recording the height to which the mercury is blown. It is a test of the measure of the tone of the abdominal wall. Its average should be 110 mm. Hg. with a minimum of 80 mm. Hg. (5) This is the vital capacity test mentioned above under (2). (6) Fatigue test (U tube). The subject is asked to empty the lungs, fill up, blow the mercury to the height of 40 mm. and hold it there without breathing for as long as possible. The nose should be clipped. The average sustaining time is 40 seconds. A valuable adjunct to this test is the behavior of the pulse during the time the mercury is being sustained. It is counted during each period of 5 seconds. Starting at the 5th second in the normal individual, there is generally a slow, steady rise in the rate of the pulse or a fairly marked rise which is sustained most of the time. Stress is indicated by a quick rate during the 5th to the 15th second and then a falling away in rate to normal or below normal. These tests were given experience among aviators and found reliable, and are suggested for measuring industrial fatigue and for the grading of people for positions of trust.—Martin Flack, Lt. Col., R. A. F. M. S., *The Lancet*, Feb. 8, 1919, p. 210. (*E. R. H.*)

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Program of Industrial Hygiene.—In the modern public health movement there should go side by side with the child conservation program an equally intensive program to prevent the causes of disease and death which operate during the period when the child is growing to manhood or womanhood, and during the subsequent period as well. This program of industrial hygiene as worked out in the New York City Department of Health calls first for the prompt reporting of occupational disease by physicians. These reports give a clue to the existence of industrial conditions which are a hazard to health

and life; and attempts are then made to remedy the conditions. Diagnostic clinics are established in factories investigated where conditions permit.

Of the miscellaneous activities carried out by the Department, it is to be noted that examinations of minors of both sexes who are receiving a vocational training has been begun, with a view of recording the physical conditions which may be found just before these individuals enter industry, and to follow up by periodic medical examinations and by sanitary supervision of the factories which they enter, in order to limit as far as possible by legal supervision the development of diseases which are the direct or indirect results of occupation. The establishment of clinics in night schools which are visited by young working people also offers many possibilities for education and health protection. Friendly relations with the leaders of labor having been established, it was possible then to organize with their coöperation an alliance between the Division of Industrial Hygiene and organized labor, which is known as the Labor Sanitation Conference. This conference is the clearing house through which the workers are informed of the special activities which are carried on for their protection, and thus the leaders are made to serve as active agents in the education of the workers, and in turn, the labor representatives transmit complaints and suggestions to the Division of Industrial Hygiene.—Harris, L. I., *N. Y. State Jour. of Med.*, Feb., 1919, 61. (*D. G.*)

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Women Workers in Engineering Trades.—Women workers may be divided into three groups—the educated type who can be prepared for skilled occupations, the domestic type who are mostly the daughters of small tradesmen and make good forewomen, and the factory type who are mainly concerned in making as much money as they can. The latter class seek piece work and object to learning more than one operation, as each change to a new occupation means a temporary set-back in wages. They are largely employed on unskilled work of a repetition nature. Women workers are as readily trained as men workers. They should have women as supervisors. The introduction of women means considerable trouble and some expense for the management, but the increased sanitation and welfare work are probably as necessary even for men and in the end pay for themselves in an increased out-put. In repetition work, women very quickly excel men in out-put. Women are probably in the engineering trade to stay. The difficulties with trades unions are not insuperable. Women in industry should not be allowed to degenerate industrially. They should not become laundry slaves and sweated tailoresses. The educational facilities of technical schools should arrange to fit women to rise to the highest place in engineering, chemical, and allied industries.—Excerpt, Minutes of Proceedings of the Institution of Mechanical Engineers (Miss O. E. Monkhouse and Ben H. Morgan), London. U. S. B. of L. S., *Monthly Labor Review*, Dec., 1918, p. 312. (*E. R. H.*)

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Report of the British Factory Medical Officer.—The amount and quality of production were increased when the health and physical needs of the workers were properly attended to. Women workers, as a rule did not feed themselves properly, which accounted for their frequent fainting attacks. These attacks became rare when they were properly fed. Casualties were reduced enormously by keeping the workers cheerful, preventing monotony, providing recreation, and a complete change during meal time. The factory medical officer should be a member of the factory staff. "Sickness among the workers might be caused by drink, industrial occupation, or illness, but before the occurrence of disease the effects of fatigue might make themselves felt, and this could only be properly dealt with by the factory officer who knew the conditions of work." Chairs of industrial health should be maintained in all departments of medicine in our universities because of the increasing demands for skilled industrial physicians. The factory doctor must be assisted by the factory nurse and the factory dentist. It should be the privilege of every worker to see his medical attendant in the daylight.—Dr. W. J. O'Donovan and Lord Chetwynd, *The Lancet*, March 15, 1919, p. 447. (*E. R. H.*)

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Hereditary Occupational Disease.—What is meant is the heredity of occupation instead of the inheritance of an affliction. A specific instance is related: A man presenting intense tremor of the hands for many years, and finally his son developing the same tremor. The diagnosis wavered between paralysis agitans, and certain other nervous afflictions. Krabbe remarks that when there is any doubt, neither of these diseases is involved. The son at 33 developed the same symptoms as the father, and for 9 years they were accepted as inherited nervous disease. Then someone investigated the exact nature of the work of the two. They were listed as "instrument makers," but it was found that their business was to fill thermometers with mercury!—Abstracted from Ugeskrift for Laeger, Copenhagen, by the *Journal A. M. A.*, March 1, 1919, p. 692. (*E. R. H.*)

PUBLIC HEALTH LABORATORY NOTES

Abstracted by ARTHUR LEDERER, M. D.

Fate of Typhoid Bacilli in Normal and Typhoid Immune Rabbits.—The cultures were injected intravenously. There is no difference in the bactericidal powers of normal and immune rabbits. The lungs of immune rabbits take up a slightly greater number of bacteria than do normal lungs.—J. T. Parker and E. Franke, *Jour. Med. Res.*, 39, 301 (1919).

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Bacteriology of Canned Foods.—The investigation is part of a comprehensive examination of the question of food poisoning undertaken by Harvard University, in the Department of Preventive Medicine and Hygiene. It has been found that commercial canned foods, as found in the markets, are not always sterile, but may contain viable spores of bacteria. The living spores found in commercial canned foods are unable to grow in the food on account of the absence of oxygen. The vacuum is essential to the preservation of canned foods under present methods of processing. Food poisoning organisms such as *B. botulinus, B. enteritidis*, etc., are not found in commercial canned foods.—John Weinzierl, *Jour. Med. Res.*, 39, 349 (1919).

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Results Obtained in Tuberculous Patients Treated in 1913 with Friedmann's Serum.—Eighty-five tuberculous patients were treated with Friedmann's injections (tubercle bacilli of cold-blooded animals) in 1913, the lesions representing all degrees of the disease. After the lapse of five years the author was able to examine 25 of these patients and found that, all things considered, the results were good. As to the remaining patients, the majority gave favorable data as to their condition by letter. As all these cases offered undoubted clinical evidence of tuberculosis in 1913, the author does not hesitate to recommend Friedmann's treatment on a large scale.—F. Kraus, *Deutsche Med. Woch. schr.*, Dec. 26, 1918; *Med. Rec.*, 95,423 (1919).

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Treatment of Influenzal Pneumonia with Convalescent Human Serum.—Pooled serum from convalescent influenzal broncho-pneumonia patients has greatly reduced mortality, has shortened the course of the disease, and has proved almost a specific, not only during a waning epidemic but also during the more recent severe recrudescence.—L. W. McGuire and W. R. Redden, *Jour. A. M. A.*, 72, 709 (1919).

Influenza and Vaccines.—The author reviews the bacteriology of influenza and the use of vaccines. He believes that the position of affairs at the present day is most unsatisfactory. Really but little more is known now than at the time of previous epidemics, when the disease was attributed to an "influence" from the heavenly bodies and named accordingly.—W. D. Emery, *Practioner (London)*, 102, 64 (1919); *Jour. A. M. A.*, 72, 761 (1919).

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Study of Atypical Type II Pneumococci.—At least 12 subgroups of atypical Type II pneumococcus may be recognized by specific agglutination reactions (IIa to IIm). These subgroups have an incidence of 11 per cent in lobar pneumonia, and of 18 per cent in normal mouths. Certain groups (b, c, f, m) occur in normal mouths. Subgroups (a and h) are met with largely in connection with disease. The mortality of acute lobar pneumonia due to these atypical Type II pneumococci is fairly high—32 per cent.—E. G. Stillman, *Jour. Exp. Med.* 29, 251 (1919).

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Etiology of the Grippe.—Pulmonary juices after filtration are placed for a certain time in an incubator. On broth a growth of corpuscles, which were hardly visible in the microscope, was obtained. The inhalation of this culture of filtered virus produced a febrile process, having the character of influenza, in several persons. It is to be remarked that this process immediately followed the experimental infection without any incubation period.—E. Leschke, *Berl. Klin. Woch.*, Jan. 6, 1919; *Med. Rec.* 95, 456 (1919).

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Passage of Rabic Virus into the Brain and other Organs.—When the brains of rabbits and guinea pigs which died of rabies were washed with physiologic salt solution and immersed in neutral, sterilized glycerol, the rabic virus passed into non-rabic brains, liver and kidney immersed in the same liquid in contact with the rabic brains.—P. Remlinger, *Compt. Rend. Soc. Biol.*, 81, 55 (1918); *Chem. Abstr.*, 13, 452 (1919).

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Prophylactic Use of Mixed Influenza Vaccine.—A noteworthy degree of protection against influenza and its complications was obtained by means of a mixed vaccine freshly prepared from predominating etiologic bacteria. These observations should also

encourage further work along the line of immunity against pneumonia. To this end an attempt is now being made to regroup the Type IV pneumococcus with the object of adding it to a vaccine when needed.—A. J. Minaker and Robert S. Irvine, *Jour. A. M. A.*, 72, 847 (1919).

✱

Yeast Medium for Meningococcus Culture.—The preparation of the yeast medium is given. It is easily prepared and prolongs the viability of the meningococcus for at least a month.—F. Eberson, *Jour. A. M. A.*, 72, 852 (1919).

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Method of Estimating Hydrogen-ion Concentration in Urine.—The method is a modified Henderson method. The indicators used are methyl red, neutral red and rosolic acid. Toluol is to be added to the urine as a preservative when collecting a 24 hour sample or where analysis is delayed. Urines containing hemoglobin, bile or great excess of pigment may be dialyzed in a collodion sac against neutral 1 per cent saline solution for 30 minutes. The presence of protein in the urine does not interfere with the use of any of the indicators. A new notation for the various degrees of acidity is suggested that make the method easier for clinicians.—A. D. Haskins, *Jour. Lab. Clin. Med.*, 4, 363 (1919).

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Rapid Method of Determining Type of Meningococcus Infection.—The spinal fluid is centrifuged until clear; 0.5 cc. of this fluid is added to an equal amount of each of the four type serums. The tubes are thoroughly shaken and warmed to 37°C. in a water bath. A distinct flocculation appearing within a few minutes indicates a positive reaction.—H. Robinson, *N. Y. Med. Jour.*, 109, 464 (1919).

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Effect of Carbon Dioxide in Cultivating the Meningococcus.—The meningococcus grows well in atmospheres containing from 15 to 40 per cent oxygen. If small amounts of carbon dioxide affect the growth of the meningococcus on an artificial medium it is by changing the reaction of the medium, not by slightly reducing the oxygen tension of the surrounding air. A reaction favorable to the meningococcus depends solely upon the hydrogen-ion concentration of the medium. The optimum for the meningococcus is approximately at p^{H} 7.4.— F. L. Gates, *Jour. Exp. Med.*, 29, 321 (1919).

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Staining of Diphtheria Bacillus.—The technic described has been employed by the author extensively for eight years and has given excellent results. The stain is made by dissolving 0.1 gram of toluidine blue and 0.5 cc. of glacial acetic acid in 100 cc. of distilled water. The solution keeps well. Smears are prepared on slides in the usual way. Fix them by heat, and then place a drop of the stain on each smear. Cover at once with a cover glass. The excess of stain is removed by blotting. The slide is ready for examination about one minute after putting on the stain. The stain colors the bodies of the bacilli a faint blue and the polar granules a deep reddish purple. It is applicable to the detection of diphtheria bacilli in either cultures or in direct smears from swabs.—P. L. Sutherland, *Lancet (Engl.)*, Feb. 8, 1919; *N. Y. Med. Jour.*, March 29, 1919.

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Comparison of Plate and Rapid Bacteriologic Methods of Milk Analysis.—136 milks have been analyzed by five different methods: direct microscopic, standard plate, lactose plate, little plate (Frost) and reduction test. In milks containing less than one million bacteria per cc. the 3 methods —standard plate, lactose plate and little plate— gave closely comparable results. The direct microscopic count was less reliable with milks having a low bacterial content than it was with poor milks. In milks containing upward of one million bacteria per cc. the lactose plates were found to be considerably higher (50 per cent) than the standard plates, the little plates tended to run somewhat lower, while the direct microscopic count gave highly satisfactory results. The results obtained with the reduction test closely approximate those obtained by the other methods. The little plates furnished results in one-eighth to one-fifth of the time required by the other culture methods.—J. E. Simmons, *Jour. Inf. Dis.*, 24, 322 (1919).

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Bacteriological Testing of Disinfectants.—The possible sources of error in the Rideal Walker method of testing disinfectants has been investigated by the Royal Institute of Public Health. It was found that the varying character of the peptone used in preparing the medium for the growth of the test organism has been the chief cause of the difficulties in obtaining concordant results as compared with pre-war times. The presence of blood serum and other organic matter affects the germicidal value of emulsified tar acid disinfectants as well as the phenol control. The number of times the organism is subcultured before use appears to affect the results considerably. Temperature also must be controlled. It is suggested that the test would be much simplified if a definite time of contact, the same for all dilutions, were used in the test instead of the intervals of 2½ minutes.—Communication from Research Lab. of Royal Institute of Public Health. *Jour. of State Med.*, Feb., 1919, 53. (*D. G.*)